

# MANUFACTURERS' RECORD

A Weekly

Southern Industrial and Hardware

Newspaper.

VOL. XII. NO. 28. WEEKLY.

BALTIMORE, JANUARY 14, 1888.

\$3.00 A YEAR.  
{ SINGLE COPIES, 10 CENTS.

Sole Manufacturers of EUREKA PACKING JAS. SMITH & CO. Dealers in MANUFACTURERS', MILL and ENGINEERS' SUPPLIES OF EVERY DESCRIPTION. CIRCULARS AND PRICE-LISTS MAILED UPON APPLICATION

Steam, Hydraulic and Locomotive Packing, Works, 413 to 421 Race St., Cor. of Crown. Office & Store, 137 Market St., Philadelphia.

ELEVATORS

Send for Illustrated Circulars.

MORSE ELEVATOR WORKS.

MORSE, WILLIAMS & CO.

SUCCESSORS TO CLEM & MORSE

Manufacturers and Builders of HYDRAULIC STEAM, BELT and Hand-Power, PASSENGER and FREIGHT ELEVATORS. With most approved Safety Devices. Dumb-Waiters, Automatic Hatch-Doors, &c. Office: 411 CHERRY STREET, PHILADELPHIA, PA. Works: FRANKFORD AVE., WILDEY & SHACKANAXON STS. Branch Office, 108 Liberty Street, NEW YORK.

Report of the AQUEDUCT Commissioners.

[NEW CROTON AQUEDUCT, NEW YORK.]

AN ELABORATE VOLUME, CONTAINING AUTHORITATIVE TABLES BY THE CHIEF ENG., B. S. CHURCH. JUST ISSUED.

PLANT (by actual count from Table 13.)

Number of Ingersoll Drills used..... 248 All headings where Ingersoll Drills were used exclusively have been completed, except the section under

Number of Drills of all other kinds..... 103 Harlem River, now being driven by Ingersoll Drills and Air Compressors. Send for description of Aqueduct,

PROGRESS (by actual figures from Table 8.)

with Engineers' Tables of Progress and Catalogue. Sent free. We have procured a limited number of the

Report of the Aqueduct Commissioners, and will send them by express on receipt of \$5, actual cost to us.

Average weekly progress in best 10 headings that used Ingersoll Drills exclusively (omitting all idle weeks)..... 38.73

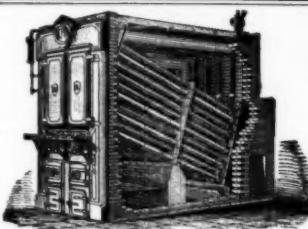
Average weekly progress in best 10 headings that used other drills exclusively (omitting all idle weeks)..... 31.68

DIFFERENCE OF 20 PER CENT. IN FAVOR OF INGERSOLL DRILLS.

INGERSOLL

ROCK DRILL CO.,

10 Park Place, New York City.



Root's NEW WATER TUBE STEAM BOILER,

Safe, Economical, Durable.

Recently adopted by the BRUSH ELECTRIC LIGHT CO., at Louisville, the EDISON ELECTRIC LIGHT CO., Detroit, and the COLUMBUS EDISON ELECTRIC LIGHT CO., Columbus, Ohio.

Abendroth & Root Manufacturing Co.  
28 CLIFF STREET, - - - - - NEW YORK.

SELLING AGENTS:

A. B. ENSIGN, Esq., - - - Rochester, N. Y.

A. S. FISKE, Esq., 41 Johnston Building, Cincinnati, O.

WILLIAM H. SMITH, Esq., 118 Dearborn St., Chicago, Ill.

CHAS. E. ASHCROFT, Esq., 49 Mass. St., Boston, Mass.

JOHN S. MOORE, 149 Gravier Street, New Orleans, La.

T. B. PACKER, Shadelley Building, Kansas City, Mo.

V. MERRILL, 149 N. Third Street, Philadelphia, Pa.

WIGGS & BACON CO., Birmingham, Ala.

Thomas K. Carey & Co.

21 S. CHARLES STREET, BALTIMORE.

Write for New  
Machinery Catalogue.

LEATHER AND RUBBER BELTING,

Cotton and Woolen Mill Supplies.

LATHES, PLANERS, DRILLS,

Engines, Shapers, Gear Cutters, &c.



THE MEDART PATENT

WROUGHT • RIM • PULLEY.

OVER 300,000 NOW IN USE. THE LIGHTEST, STRONGEST, BEST BALANCED and CHEAPEST in the WORLD.

Shafting, Hangers, Couplings, &c.

MEDART PATENT PULLEY CO.,

1906 TO 1914 N. MAIN STREET, ST. LOUIS, MO.  
Stores: 99 to 101 W. Second St., Cincinnati.  
24 & 26 S. Canal St., Chicago.

FRANK W. SWETT, MANUFACTURER OF BAND SAWS, 69 SOUTH CANAL ST., CHICAGO, ILL. EVERY BLADE WARRANTED

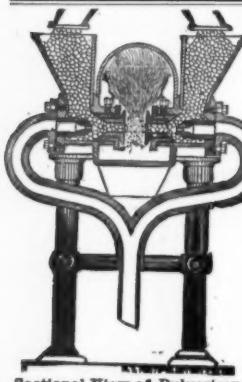
# M ECKLENBURG IRON WORKS, Charlotte, N. C.

BUILDERS OF { ENGINES and BOILERS, STAMP MILLS,  
CRUSHERS, Circular Saw and Grist Mills, CORNISH PUMPS,

## MINING MACHINERY.

Cotton Presses, Water Wheels, Shafting and General Machinery.

JOHN WILKES, Manager.



Sectional View of Pulverizer.

### PNEUMATIC PULVERIZER.

The principle of pulverization consists in the employment of  
TWO POWERFUL OPPOSING CURRENTS

of dry super-heated steam, so arranged that they continuously charge themselves with crushed or granulated material, and by the great force and velocity of the steam currents the minerals are dashed against each other with such power of concussion as to cause the hardest ore to be pulverized to any degree of fineness desired. The high temperature of the super-heated steam currents employed, through which every minute particle of ore must pass, causes them to become very hot & dry, which produces a beneficial effect upon sulphur and ores containing rusty Gold. The light weight and simplicity of construction of the Pulverizer, the extremely small and inexpensive wearing parts are the WONDER and SURPRISE of all who witness its operation. The Company are prepared to furnish complete plants for pulverizing

10 to 200 Tons Per Day,

including a Sectional Steam Boiler supplying all the power required.

### PNEUMATIC PULVERIZER COMPANY,

L. F. HOLMAN, Pres.  
F. A. LUCKENBACH, Supt.

2 and 4 Stone Street, New York.

WRITE FOR PARTICULARS.

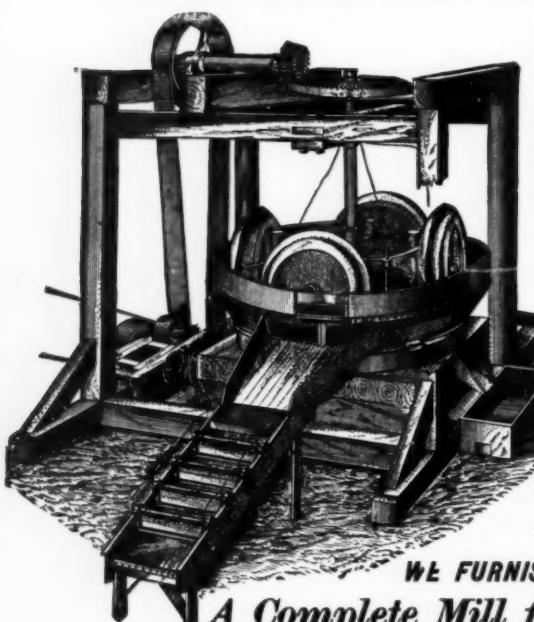


### ARCTIC ICE MACHINE MFG. CO.

Works, 4, 6, 8 & 10 West Street, Cleveland, O.

Manufacturers of Machines for Making Ice and for Refrigerating Breweries, Pork Houses and buildings of all kinds requiring a steady, low temperature. Over 100 of our machines now in use. Send for any particulars desired. P. O. Box 92, Cleveland, Ohio, or P. O. Box 348 Cincinnati, Ohio.

### WISWELL Ore Pulverizer and Amalgamator COMBINED.



The following testimonial from Mr. Marsden, of the firm of Farrel & Marsden, manufacturers of stone-breakers & ore-crushers, Ansonia, Conn., speaks volumes for the Wiswell Mill:

Wiswell Electric Mining Machinery Co.:

GENTLEMEN: After carefully inspecting your mill and seeing it in operation, I do not hesitate to say that it is one of the best, if not the best pulverizer and most complete gold saving machine I have ever seen.

Please accept congratulations for your success.

S. L. MARSDEN.

WE FURNISH

A Complete Mill for \$2,500.

DELIVERED ON BOARD CARS.

For further information address

WISWELL

Electric Mining Machinery Company,

A. A. REEVE, Treas.

4 Post-Office Square, Boston, Mass.

### STEEL CASTINGS

→CHESTER STEEL CASTINGS CO.→

Offices, 407 Library Street, Philadelphia.

Works, Chester, Pa.

FROM 1-4 to 15,000 lbs. WEIGHT.

True to pattern, sound, solid, free from blow-holes, and of unequalled strength.

Stronger and more durable than iron forgings in any position or for any service whatever.

40,000 CRANK SHAFTS and 30,000 GEAR WHEELS of this steel now running prove this.

CRANK SHAFTS and GEARING specialties.

STEEL CASTINGS of every description.

Send for Circulars and Prices to

### M. C. BULLOCK MFG. CO.

MANUFACTURERS OF



Diamond Pointed Rock Drills,  
STEAM ENGINES and BOILERS,

Lane's Patent Band Friction Hoisting Machinery,

FOR MINES, BLAST FURNACES, DOCKS, ETC.

### STRAIGHT LINE ENGINES.

Address,

GENERAL OFFICE: 138 Jackson St., Phenix Building. WORKS: Lake and Tallman Av., CHICAGO, U. S. A.



### BACON

Winding Engines,  
Furnace Hoists  
Mine Hoists.

(With or Without Boilers.)

"Mining PLANTS," Concentrating Works and Dredging Machinery Furnished Complete.

### COPELAND & BACON,

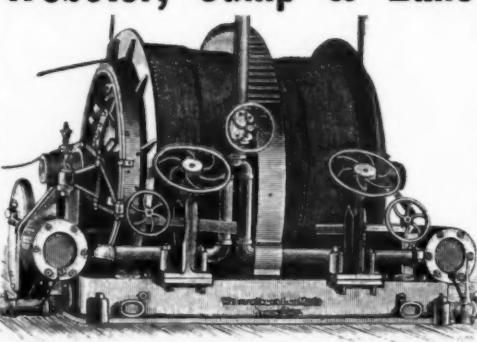
85 Liberty Street, New York.

309 Arch Street, PHILADELPHIA.

REFERENCES:—Croton Magnetic Iron Mines, Brewster's, N. Y. Crown Point Iron Co., Crown Point N. Y. Belvidere Iron Co., 45 Broadway, New York. Gas Island Chemical Co., Beaufort, S. C.

### Webster, Camp & Lane Machine Co.

BAND FRICTION  
HOISTS.



Endless and Tail Rope  
Haulage Engines for

### COAL MINES.

Automatic and Slide Valve  
Steam Engines, Boilers,  
Pumping Plants, Cages,  
Ore Cars, Sheaves, etc.

### AKRON, O.

### Record Printing House,

Fine Cut Work  
A Specialty.

Cor. Exchange Place  
and Commerce St.

## HOISTING ENGINES FOR MINES, FURNACE AND FACTORY.

—Also, Superior Boilers.—



## Hoisting • Machinery

## FOR CONTRACTORS,

Bridges, Dock Building, Pile Driving and Excavating.  
300 STYLES AND SIZES.

## AGENTS:

COOLIDGE &amp; BUCK, Chattanooga, Tenn.

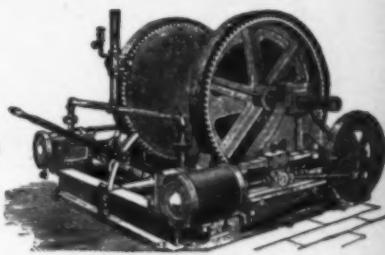
## • MINE •

AND

## FURNACE HOISTS,

## Horizontal Engines

FOR MANUFACTURING.



LIDGERWOOD MFG. CO.

No. 98 Liberty St.  
New York.H. A. ROGERS, 19 John Street,  
NEW YORK.

## RAILWAY

AND

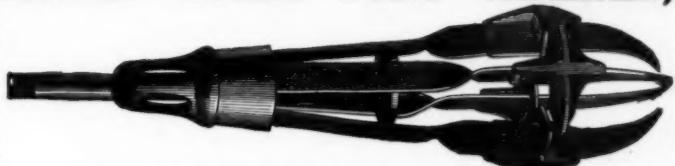
## Machinists' Supplies.

SOLD AGENTS IN THE U. S. FOR

Moncreif's Scotch Gauge Glasses.

GENERAL AGENT CELEBRATED TANITE EMERY WHEELS.

## NATIONAL STEEL TUBE CLEANER,



ENDORSED BY THE BEST ENGINEERS.

THE CHALMERS-SPENCE CO., 419 East 8th St., NEW YORK.

131 First Ave., Pittsburgh, Pa.; 19 Pearl St., Boston, Mass.; 144 and 146 Lake St., Chicago, Ill.

**STEAM PUMPS** for Hot or Cold, Fresh or Salt Water; for Oils, Naphtha, Tar; for Cane Juice, Liquors, Syrups, Scum; for Ammonia, Alkalies, Extracts, Acids; for Thick, Volatile, Viscous or Foul Liquids, etc. Vacuum Pumps of the highest efficiency. Filter Press Pumps. Air, Gas and Acid Blowers. Air Compressors, Etc.

BUILT BY GUILD &amp; GARRISON, Brooklyn, N. Y.

## SWIFT RUNNING EMERY WHEELS.

The Original SOLID VULCANITE  
**EMERY + WHEELS.**

Runs Easy and Safe, Cool and True.

Is More Durable—Hence Cheaper.

A trial will convince you of this. 38

Knife-Grinding Wheels a Specialty.

NEW YORK BELTING &amp; PACKING CO.

Belt Manufacturers,  
J. H. CHEREV, 15 Park Row, NEW YORK.

## AMERICAN SUPPLY COMPANY,

Formerly Myron Fish &amp; Co., of Valley Falls, R. I., and Kendrick Loom Harness Co., of Providence, R. I.

—MANUFACTURERS OF—

## LOOM HARNESS AND REEDS.

Oak Belting, Lace and Picker Leather, and Dealers in Supplies for Cotton, Woolen and Silk Mills.

Agents for Joseph Moore's Sons  
Roller, Slasher & Clearing Cloths.RODDICK'S PATENT IMPROVED OIL CANS.  
—Agents for—  
Calf, Sheep and Lamb Roller Skins, and Roll Covers' Tools.

—Special Notice to Worsted and Silk Mills.—

We Manufacture both Worsted and Cotton Machine-Knit Mail Harness for Weaving Fine Worsted and Silk Goods. Also a Full Line of Supplies for Jacquard Looms.

Office and Salesrooms, 10 Exchange Place, Providence, R. I.

—FACTORIES:—

PROVIDENCE and VALLEY FALLS, R. I.

A. D. LOCKWOOD, Pres. JOHN KENDRICK, Vice-Pres. MYRON FISH, Treas. JOHN A. CARTER, Secy. JOSEPH H. KENDRICK, Gen'l Agent.

WE HAVE  
Unparalleled Facilities for Furnishing  
Shuttle's & Heddle Frames,  
WIRE HEDDLES and WIRE GOODS  
Of all Descriptions.

**Southwark Foundry and Machine Company,**  
Engineers, Machinists and Boiler Makers,



Washington Avenue and Fifth Street,

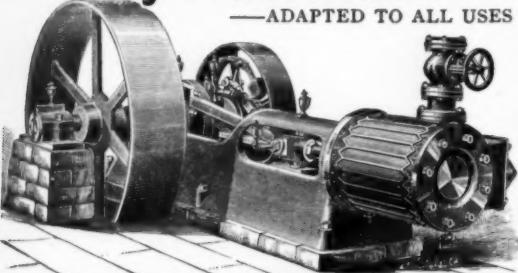
SOLE MAKERS  
Porter-Allen & Southwark  
Engines.Blowing & Reversing  
Engines, Steel &  
Hydraulic Machinery,  
Boilers, Tanks,  
and Gas Apparatus.

INQUIRIES SOLICITED.

PHILADELPHIA, PA.

**Valley Automatic CUT OFF Engines**

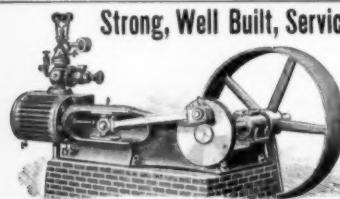
—ADAPTED TO ALL USES REQUIRING—

Superior Regulation and  
Economical Use of Steam.  
Send for Illustrated Catalogue.

Valley Iron Works,

MANUFACTURERS,  
WILLIAMSPORT, PA.Stocks carried by  
W. C. Codd, Baltimore, Md.  
J. S. Mahony & Son,  
New York City.  
Ivens & Son, MACHINE CO.,  
New Orleans, La.

Strong, Well Built, Serviceable **STEAM ENGINES**

Adapted to Heavy, Continuous  
Work. Cost no more than  
ordinary Engines. For descriptive  
circulars, address

Chandler &amp; Taylor, Indianapolis, Ind.

**Cleveland Ship Building Co.**

SUCCESSORS TO

**Cuyahoga Steam Furnace Co.**

CLEVELAND, OHIO.

**BLOWING ENGINES**

—FOR—

**Blast Furnaces**

**Steel Plants**

—A SPECIALTY.—

**OUR NEW BLOWING ENGINE**

NOW FOR SALE. SIZE:

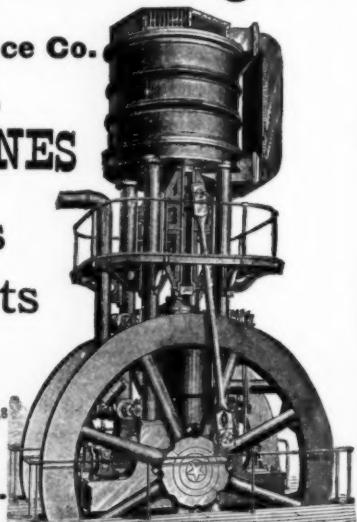
Steam Cylinder ..... 36x48 | Air Cylinder ..... 84x48

**STEAM HELVE HAMMERS,**

From 1,000 to 5,000 lbs.

**Engines and Boilers.**

Correspondence Solicited.



**BOILERS**

MAHONING BOILER WORKS  
ESTABLISHED 1863.  
PIPES, STACKS, BEAMS, ROOF TRUSSES,  
BLAST FURNACES & ROLLING MILL WORK,  
WM. B. POLLOCK & CO. YOUNGSTOWN, OHIO.

**JARVIS PATENT FURNACE**

**FOR SETTING STEAM BOILERS.**



Economy of Fuel, with increased capacity of Steam Power. Like the Siemens Process of Making Steel, it utilizes the waste gases with hot air on top of the fire. Will burn all kinds of waste fuel without a blast, including Slack Coal, Sawdust, Logwood Chips, &amp;c. Send for Circular.

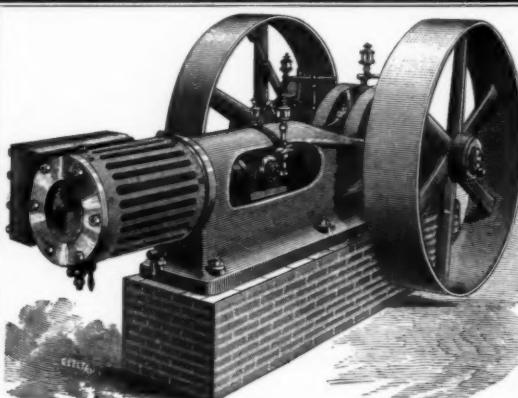
Jarvis Engineering Co.,  
A. F. UPTON, Treas. and Gen'l Manager,  
61 Oliver St., Boston, Mass.

**SOUTHERN REFERENCES:**

Eagle & Phenix Mfg. Company, Columbus, Ga.  
Anniston Mfg. Co., Anniston Ala.  
J. P. King Mfg. Co., Augusta, Ga.  
Rose Mining Co., Charleston, S. C.  
Maryland Pavement Co., Baltimore, Md.  
Brush Electric Light Co., Baltimore, Md.  
Etniok, Matonca and Battersea Mfg. Co.'s,  
Petersburg, Va.  
Basin Fertilizing Co., Baltimore, Md.  
Tanner & Delaney Engine Co., Richmond, Va.  
Shaw Mills, Atlanta, Ga.

Graniteville Mfg. Co., Graniteville, S. C.  
Charleston Bagging Co., Charleston, S. C.  
P. H. Mayo & Bros., Richmond, Va.  
Phosphate Mining Co., Beaufort, S. C.  
Brush Swan Electric Light Co., Norfolk, Va.  
Columbus Ice & Refrigerator Co., Columbus, Ga.  
Lenoir Manufacturing Co., Lenoir, East Tennessee.  
Vancleave Mill, Graniteville, S. C.  
Charleston Electric Light Co., Charleston, S. C.

For First-Class Steam Boilers, Stacks, Sheet Iron and Plate Work, Oil and Water Tanks,  
Address Enterprise Boiler Co., Youngstown, O.



This Pattern of  
The Payne Automatic  
**ENGINE**

Is conceded to be the most  
reliable and economical  
**FOR ELECTRIC  
LIGHTING**  
EVER DESIGNED.

A full line of Vertical,  
Portable and Stationary  
Engines and  
Boilers always in  
stock.

It will pay you to correspond with us before buying.

**B. W. PAYNE & SONS**

BOX 1018.

ELMIRA, N. Y.

107 Liberty St., New York.

10 S. Canal St., Chicago.

Baltimore—Morton, Reed &amp; Co.

ECLIPSE CORLISS ENGINES.

**Frick Company, Engineers, Builders,**  
WAYNESBORO, PA.—

40 to 1,000 H. P.  
Made.Condensing, Non-Condensing & Compound.  
Send for Corliss Circular.Ice-Making and  
Refrigerating  
Machinery.  
Send for Ice-Machine Circular.

Special Automatic Electric Light Engines, Steam Boilers, Traction and Portable Engines, Saw Mills. Send for our General Catalogue.

—) FOR THE LOWEST-PRICED FIRST-CLASS (—  
**ENGINES & BOILERS**

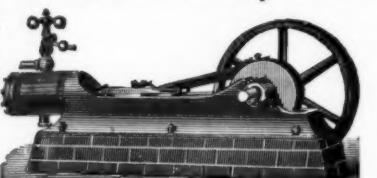
ADDRESS

**GEO. W. TIFFT, SONS & CO.**  
BUFFALO, N. Y.

5 to 500 H. P. Special Stock Sizes 5  
to 50 H. P., both Stationary and  
Semi-Portable.A few good Second-Hand Engines and Boilers are  
for sale at an astonishingly low figure. Must be sold  
to make room for stock. Correspondence solicited.  
Mention this paper.

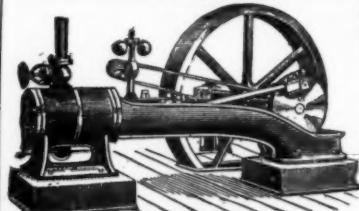
**SKINNER ENGINE CO. Erie, Pa.**

Awarded THREE GOLD MEDALS  
by the World's Industrial and Cotton  
Centennial Exposition of New  
Orleans, La.



**More than 2000 in Use.**

Manufacturers of Portable and Stationary Engines and Boilers,  
including the well known Skinner Portable return flue boiler.  
Send for ILLUSTRATED CATALOGUE AND PRICES.



**WRIGHT & ADAMS CO.**  
QUINCY, ILL.  
BUILDERS OF  
**Automatic Cut-Off  
ENGINES**

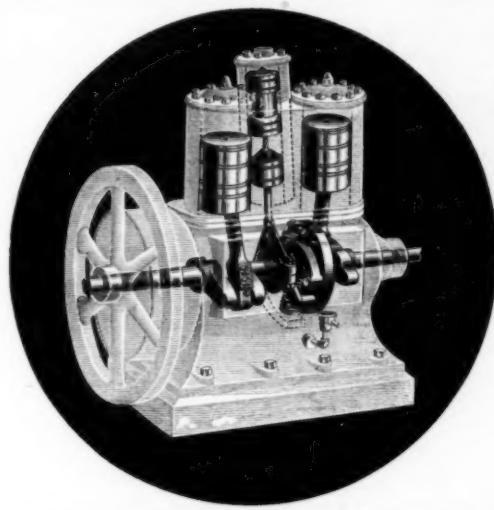
Double Drum Derrick Engines. Single Drum  
Reversing Engines, suitable for Mines  
and Rapid Hoisting.

Catalogue sent on application.

**Continental Boiler Scale Preventive.**

Positively prevents and removes scale in steam boilers without acting on any of the metals.  
A real necessity for Southern steam users. Saves fuel, repairs and trouble, and doubles the  
life of the boiler. Sold on its merits, and satisfaction guaranteed or no pay. Write for sample.

The Gleason Boiler Compound Co., Cleveland, Ohio.



## DIVIDED POWER.

SHAFTING { COSTS TO PURCHASE { COSTS TO MAINTAIN { VERSUS THE  
COSTS TO LUBRICATE { COSTS TO DRIVE { Westinghouse  
ENGINE.

Independent Engines convert their whole power into merchantable product.

Take the Engine to the Work, not the Work to the Engine.

THE WESTINGHOUSE MACHINE CO.  
PITTSBURGH, PA.

SELLING DEPARTMENT  
CONTROLLED BY  
Westinghouse, Church, Kerr & Co.  
17 Cortlandt Street..... New York.  
97 Fifth Avenue..... Pittsburgh.  
156 and 158 Lake Street..... Chicago.

Fairbanks & Co.  
302 and 304 Washington Avenue..... St. Louis.  
1312 Union Avenue..... Kansas City.  
1330 Seventeenth Avenue..... Denver, Col.

Utah and Montana Machinery Co.  
269 South Main Street..... Salt Lake.  
East Granite Street..... Butte, Mont.

Parke & Lacy.  
21 and 28 Fremont Street..... San Francisco.  
33 and 35 N. Front Street..... Portland, Or.

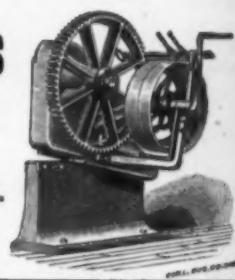
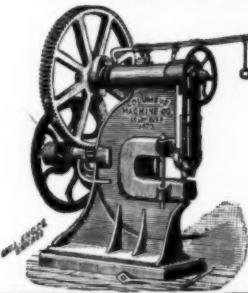
The D. A. Tompkins Co.  
36 S. College St.... Charlotte, N. C.  
46 S. Pryor St.... Atlanta, Georgia.

## COLUMBUS MACHINE CO., Columbus, Ohio.

MANUFACTURERS OF

### Blast Furnace, Stationary, Portable and Hoist Steam Engines

Boilers, of all descriptions; Rolling Mills; Drop Presses; Shears for Rail, Bar and Plate Rolling Mills; Punches and Shears—Single or Combined; Boiler and Sheet Iron Rolls—Hand or Power; Boiler Makers' Shears and Punches; Shafting Couplings; Hangings and Pulleys.

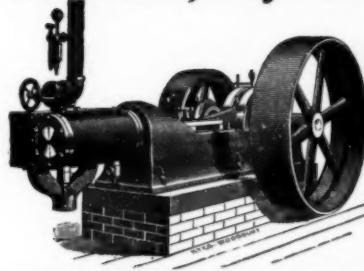


Blowing Engines, and Blast Furnace Work in all its branches, a specialty.  
Also, HEAVY CASTING AND MACHINERY WORK.

BLAST FURNACE ENGINES ON HAND.

364

## McIntosh, Seymour & Co., Auburn, N. Y.



### Automatic Cut-off Engines

5 to 300 Horse Power.

Economy in Fuel Consumption,  
Close Regulation,  
Great Durability and Simplicity,  
Perfect Workmanship and Design.

Unrivalled in these qualities, our engines are suitable for all purposes, especially where high speed and difficult services are required, as in electric-light plants, rolling mills, etc. Send for Illustrated Catalogue.

SELLING AGENTS:

Young & Thomas, 42 Cortlandt St., New York City.  
Harian Page, 243 & 245 N. 3d St., Philadelphia, Pa.  
Smith & Courtney, 1419 Main St., Richmond, Va.

## BECK AUTOMATIC ENGINE.

For Electric Light, Flour, Cotton, Woolen and Rolling Mill Service and all other purposes requiring power. Economical in Steam Consumption.

Does not race. Speed constant under varying loads and pressure of steam. Simple,



durable in construction. Requires no more space than double disc engines. Contracts



TAKEN OFF COMPLETE DRAWINGS, INCLUDING DOCTORS AND ALL CONNECTIONS, masonry and erection. All work guaranteed. Send for catalogue and full particulars. Also builders of Portable, Vertical and Stationary Engines. Boilers of all styles, and Saw Mills. Address

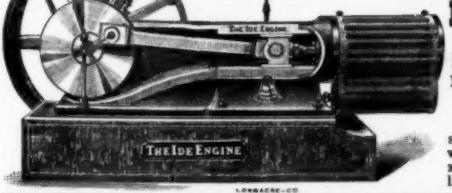
TAYLOR MFG. CO., CHAMBERSBURG, PA.

## Foundry and Machine Dept.

HARRISBURG CAR MANUFACTURING CO., HARRISBURG, PA.

Engines, Boilers & Complete Power Plants. Highest award Silver Medal and Diploma at Franklin Institute Novelty Exhibition, Phila.

We are operating the finest and most successful Electric Light Stations in the world. A change of speed not exceeding 1 per cent. guaranteed, running light and loaded. Send for catalogue.



THE IDE ENGINE

## The La France Fire Engine Company

ELMIRA, N. Y.

SOLE MANUFACTURERS OF

The La France Piston and \*  
Rotary Steam Fire Engine.

Hayes' Patent Extension Hook and  
\* Ladder Truck and Fire Escape.

Heaters and Fire Department Supplies.  
Send for Catalogues, etc.



## Acme Automatic Engine, With BRYANT'S Patent Safety Boiler.

Sizes 1, 2 and 4 H. P. Fuel, Kerosene (Coal) Oil, 120° to 180° fire test. No dust, ashes, or smoke. No Skilled Engineers required. "Brake" Tests show that 3 1/2 gals. fuel will deliver a full H. P. on belt for 10 hours, in the case of our 1 H. P. Engine and Boiler.

Rochester Machine Tool Works,  
BUILDERS, ROCHESTER, N. Y.  
SEND FOR CATALOGUE.

## Ludlow Valve Manfg. Co.

Office and Works:

938 to 954 River Street, and 67 to 83 Vail Avenue,

TROY, N. Y.



Also Fire Hydrants, Yard and Wash Hydrants, Check and Foot Valves.



## IMITATION

AN ACKNOWLEDGMENT OF SUPERIORITY.

THE best evidence that the JENKINS BROS VALVES, JENKINS STANDARD PACKING and JENKINS DISCS have extraordinary merit, and are held in high esteem by the public, is that they are being imitated and counterfeited. The imitations resemble the original in appearance only; they lack the general excellence of the genuine. Our friends and customers will sustain us in our endeavor to manufacture the best goods, by not accepting any goods unless stamped as above. This notice has become necessary by the fraudulent use of our name, and to protect the public from being deceived by unprincipled parties placing imitations on the market.

## JENKINS BROS.

71 John Street, New York.  
105 Milk Street, Boston.  
13 S. Fourth St., Philadelphia.

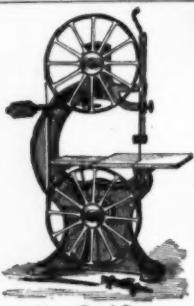
OAK LAWN PLANTATION, PARISH ST. MARY, LA., November 4, 1886.  
MASON REGULATOR CO., Boston. Gentlemen: I wire you to-day "send by express one 1 1/2-in. Mason Speed Governor, complete for immediate use." If you have not that size on hand, telegraph factory at my expense. The MASON GOVERNOR bought some time ago is working admirably. I feel sure that every planter in the State would buy them if they saw them at work.

Yours,

EDWARD LEVERICH,



Variety Saw.



No. 2 Band Saw.

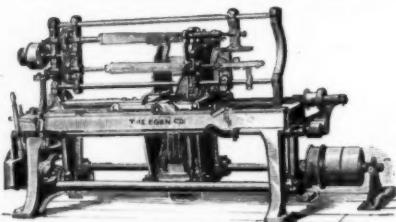
## THE EGAN COMPANY

228 to 248 W. Front Street,  
CINCINNATI, O.

MANUFACTURERS OF

### Wood-Working Machinery.

The Largest Line in the United States. Complete Outfits Furnished. Write for catalogue and prices.



Automatic Spoke Lathe.



No. 3 Scroll Saw.



Horizontal Boring Machine.



No. 7 Planer and Matcher.



Standard Molders, 7, 8, 9 and 10 inch.

162

## CORDESMAN, MEYER & CO.

171 and 173 West Second Street, CINCINNATI, OHIO.

FINE GRADES OF LATEST



### Wood Working Machinery

OF EVERY DESCRIPTION.

Planing Mills, Furniture and Chair Factories,  
Carriage, Wagon and Agricultural Works.

Write for our latest Catalogue and Price List. Correspondence solicited.



A FULL LINE OF

### Wood-Working Machinery,

Designed Expressly for

#### SOUTHERN TRADE.

SPECIAL DESIGNS IN

Re-saws, Planing Machines, Jointers,  
Band-Saws, Etc.

Send for Catalogue and Prices before purchasing  
elsewhere. Mention this Paper.

SNIGGS &amp; CO., - - Buffalo, N. Y.

## HERBERT BAKER,

MANUFACTURER AND DEALER IN

## WOOD-WORKING MACHINERY.

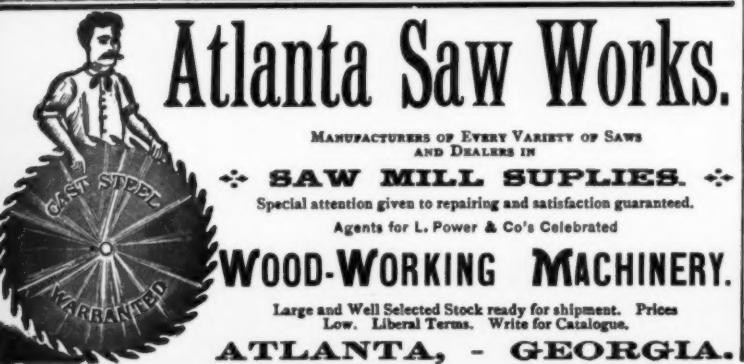
Planing Mills, Furniture Factories, Sash, Door and Blind  
Factories, Wagon and Agricultural Works.

MACHINERY FOR PATTERN SHOPS A SPECIALTY.

98 Erie Street, TOLEDO, OHIO.



CINCINNATI SAW & KNIFE  
WORKS.  
RADCLIFF ROWE & CO.  
40 & 42 PLUM ST.



## Atlanta Saw Works.

MANUFACTURERS OF EVERY VARIETY OF SAWS  
AND DEALERS IN

### SAW MILL SUPPLIES.

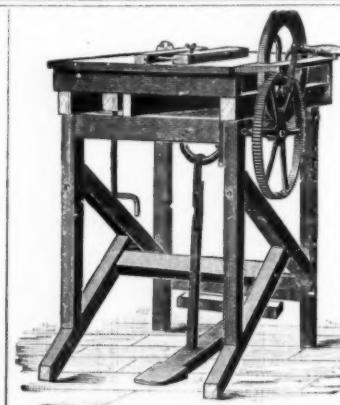
Special attention given to repairing and satisfaction guaranteed.

Agents for L. Power &amp; Co's Celebrated

### WOOD-WORKING MACHINERY.

Large and Well Selected Stock ready for shipment. Prices  
Low. Liberal Terms. Write for Catalogue.

ATLANTA, - GEORGIA.



## HAND AND FOOT POWER Circular Saws

BENCH DRILLS,  
Band Sawing Machines, Tool Grinders, etc.

FOR WORKSHOPS WITHOUT POWER.

Cheap and wonderfully efficient. Just the thing for Carpenters, Cabinet and Pattern Makers. They pay for themselves in a short time. Save time and labor. Being well and strongly made, they are thoroughly practical. Write for descriptive catalogue and prices. Mention this paper.

POST & CO., Manufacturers,  
152 Lake St., CHICAGO, ILL.

W. A. HEATH,  
BINGHAMTON, N. Y.

MANUFACTURER OF

## WOOD WORKING MACHINERY

OF ALL KINDS.

SHAPERS, BIT MORTISERS,  
IMPROVED GAUGE LATHES,  
PONY PLANERS,  
ROD, PIN OR DOWEL MACHINES, ETC.  
CHAIR MACHINERY A SPECIALTY.  
SEND FOR CATALOGUE A.



E. &amp; B. HOLMES,

BUFFALO, N. Y.,

MANUFACTURERS OF

## Barrel MACHINERY.

CHAMFERING, HOWELING, AND  
CROZING MACHINE.

HEAD ROUNDER,  
Chamfering, Howeling and Crozing Machines, Stave Dressers, Stave Jointers, Hoop Drivers,  
Crozing Machines, Heading Jointers, Heading Dressers, Beer Stave Benders, Stave Cutters,  
Leveling and Trussing Machines, Cylinder Stave Saws, Heading Saws, etc.

— STAVE, BARREL, KEG AND HOGSHEAD MACHINERY.—

See cuts of our WOOD-WORKING MACHINERY in the first issue of each month.

Correspondence solicited. Mention this paper.

## Wood-Working Machinery.

Circular Saw Mill Machinery, Clapboard and Lath Machinery, Planers, Matchers and  
Molding Machines, Band and Scroll Saws, Sash, Blind and Door machinery a specialty.  
Surfacing Machines, Re-Saws, "Buzz" Planers and Veneer Cutting Machinery, Spoke and  
Axe Handle and Bobbin Machinery, Saws and Belting and General Mill Supplies. Send  
for catalogue and estimates, stating exactly what is required. Largest machinery dealers  
in the United States.

W. E. DREW, Agent.

S. C. FORSAITH MACHINE CO., Machinists and General Machinery Dealers, Manchester, N. H.

ESTABLISHED 1845. The Oldest Saw Manufactory in the South.



TOLAND &amp; SON, Front &amp; Low Streets, Baltimore.

Particular attention paid to Large Circular Work. We warrant our Circular  
Saws to stand more strain, without buckling or cracking, than any other make.  
We make all kinds of Tough-Tempered Circular, Mill, Cross-Cut, Box and Drag  
Saws, Planer Knives, Ensilage, Feed, Tobacco, Meat Choppers, and other Knives  
made to pattern and Moulding Bits, warranted equal to the Best, N. B.—We  
make no charge for hammering any Large Circular Saw that we can make "go."  
GIVE US A TRIAL, and for toughness of temper, durability and quality of  
material, compare our work with the best you have ever used.

# TREVOR & CO.

LOCKPORT,  
N. Y.

MANUFACTURERS OF

SHINGLE, HEADING AND

## Stave Machinery

AND

### Shingle and Heading SAWS.

Heading Sawing Machines,

### Heading Turners, HEADING JOINTERS,

Veneer Cutting Machines,

Stave Equalizers,

Stave Cutters,

Shingle Jointers,

Shingle Sawing Machines,

Drag Saw Machines,

Handle Machinery.



IMPROVED CROSBY STAVE CUTTER.

Lathes for turning Handles for Brooms, Mops, Forks, Hoes, Axes, Picks, Hammers, Cant Hooks, and for Ball-Bats, Peavy-Stocks, Pike-Poles, Spokes, Etc.

If you want machinery for Staves, Heading, Shingles, or Veneer Cutting, send for our catalogue "A." If you want Handle Machinery, send for catalogue "B." Please say where you saw this advertisement.

Address,  
**TREVOR & CO., Lockport, N. Y.**

### Veneer Machinery for Furniture Factories, Etc.



Rotary-Cutting Veneer Machines.

Strong, Solid, Durable, Accurately Made, Double Drivers, Positive Feed, Complete Adjustment, Automatic Change of Pitch.

Correspondence solicited.

### COE & WILKES,

Painesville, Ohio.

### STEARNS MNFG. CO., ERIE, PA.

BUILDERS OF

Capacity 15,000 to 40,000 feet per day. CIRCULAR SAW MILLS Complete outfit planned and furnished.

### ENGINES, 15 to 800 Horse-Power. BOILERS OF IRON OR STEEL.

### BAND SAW MILLS, with Friction or Steam Feed.

### STEARNS' Fractional Head Blocks, Edgers, Cut-Off Saws, Trimmers.

The Wilkin Pony Ganz, No foundation. Capacity 30,000 to 40,000 feet of Flooring per day. The Wilkin Heavy Ganz Saw Mill for large mills, Lath and Planer Mills, Tinters, Planers, Etc.



### THE PERFECTION BRICK PRESS,

An easy-working, quick-operating and powerful press. Will successfully press brick made on any Brick or Tile Machine.

The Wrought-Iron Tempering Wheel, The most thorough mud temperer known. Temps faster, mixes better and runs lighter than any wheel made.

Barrows, Trucks, Molds, Kiln Doors, &c.

Write us for prices.

C. W. RAYMOND & CO.  
DAYTON, O.

Mention Manufacturers' Record.

### The Spiral Pug Mill

AND

### QUAKER BRICK MACHINE.

Capacity 40,000 Perfect Brick Per Day

Great Saving in Labor and Expense

We contract to furnish complete Brick-yard outfit, Engines and everything needed complete. Write for our handsomely illustrated catalogue, containing valuable information. Estimates furnished. Correspondence solicited. Address

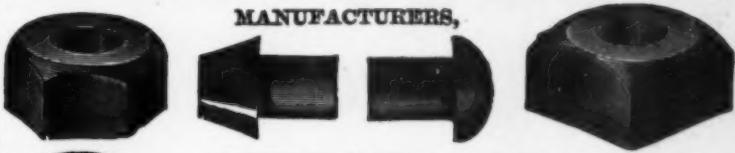
**FLETCHER & THOMAS, Indianapolis, Ind.**

Mention Manufacturers' Record.



# HOOPES & TOWNSEND,

MANUFACTURERS,



### KEYSTONE BOILER RIVETS,

Cold Punched, Chamfered, Trimmed and Drilled Square and Hexagon Nuts.

Finished and Case-Hardened Steel Hexagon Nuts.

### BRIDGE RODS and RIVETS.

**B**uilders' IRON Work.  
TANK and COOPERS' RIVETS.

PHILADELPHIA, PA.

ESTABLISHED IN 1865.

### The Richmond Locomotive & Machine Works,

★ RICHMOND, VA. ★

### NOISELESS STREET MOTOR BACK TRUCK



**Family & Dailey Engine Company**  
Having added to their extensive plant a large number of special tools, are prepared to build of the latest and most approved designs: Light, Locomotive, Passenger, Freight, Tramway, Noiseless Street Motors and Mine Engines. Also Pole Road Locomotives.

Introducing the only successful device of the kind made. Engines, Stationary and portable, to 100 horsepower. Rollers Standard and Special, to 100 horsepower. Heavy Gas Water, Corrosion and other Heavy Machinery. Correspondence is invited. Catalogues, specifications, photographs and estimates furnished on application.

### JOHN STEPHENSON COMPANY NEW YORK



TRAMWAY CARS OF EVERY DESCRIPTION  
LIGHT, ELEGANT, DURABLE.

### STEEL RAILS

### PENNSYLVANIA

Standard Sections

Light Sections

Street Rails

Fish Plates,  
Frogs, Switches

STEPHEN W. BALDWIN  
SALES AGENT

16 lbs. Full Size.

### STEEL COMPANY

50 to 80 lbs. per yard

16 " 45 " "

30 " 88 " "

Bolts & Nuts,  
and Crossings.

NO. 2 WALL STREET  
NEW YORK N.Y.



# MONTAGUE & CO.

MANUFACTURERS OF

### \* FIRE BRICK, \*

### Standard Sewer Pipe

AND CULVERT PIPE.

Double Strength, with Improved Sockets.

CHATTANOOGA, TENN.



# Pure Water AND Plenty of It. SUPPLIED BY THE

## Kirkwood Wind Engine

The best appliance for pumping water of modern times.

Progress Engine & Machine Works

M. C. R. R. SUMMERFIELD, MD.



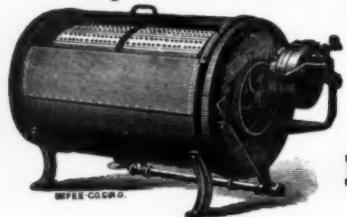
THE  
LONG & ALLSTATTER  
COMPANY,  
HAMILTON, OHIO.  
Double, Single, Angle-Bar,  
Gang, Horizontal, Twin, Boiler,  
Spacing, Gate, Multiple, BELT  
and STEAM-DRIVEN  
PUNCHES and SHEARS,  
Over 300 Sizes.  
ALSO  
Power Cushioned  
HAMMER

Send for New Catalogue.

Small Single Machine.

## Laundry Machinery.

Largest Stock. Latest Improvements. Fullest Line.



Washing Machines,  
Ironing Machines,  
Centrifugal Machines,  
Mangles, Wringers, etc.  
BOILERS AND ENGINES.  
OUTFITS FOR  
Hotels and Public Institutions  
A SPECIALTY.

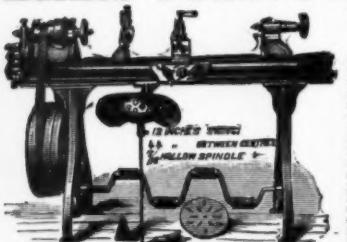
The A. M. DOLPH CO.

224 Washington Street,  
CHICAGO, ILL.

Cor. 9th St. and Freeman Ave.,  
CINCINNATI, O.

### Barnes' Patent Foot Power Machinery.

Complete outfit for Axle Workshop Business. Lathes for Wood or Metal. Circular Saws, Scroll Saws, Formers, Mortisers, Tenons, Etc., Etc.



Our Patent Velocipede Foot-Power is without question the best yet applied to Lathes. Read a few expressions from those using them: "I do not see how your lathes can be produced at so low cost." "The velocipede foot-power is simply elegant." "Can turn a whole day, and feels little tired as though one were around." "In regard to the velocipede, I consider the lathe a most valuable tool." "I sat at the lathe for 11 hours, cutting off and threading 1½ steam pipes. Those who saw it declared it equal to 15 hour job in machine shop." "Using the velocipede foot-power, the operator can hold a steady hand for doing the work." "For doing actual business, the lightest or the heaviest work, the velocipede foot-power is equal to 12 hours, equal to any costing twice the money." "What astonishes me is, how you can make machines to pay you so small sum of money." "The No. 6 Lathe is the most perfect tool I ever saw for the money." "I can do double the amount of work on the velocipede, that I can on any other style of foot-power." "There is no tax on strength, the velocipede is silent, and the hand is steady for the job." "The velocipede is the best foot-power of any for lathes."

If desired, these machines will be sold ON TRIAL. The purchaser can have ample time to test them in his own shop and on the work he wishes them to do. Descriptive Catalogue and Price-List Free.

W. F. & JOHN BARNES CO., No. 221 Ruby St., Rockford, Ill.



Sebastian, May & Co.'s Improved Screw Cutting  
FOOT AND LATHES POWER

Drill Presses, Shapers, Band, Circular and Scroll  
Saws. Machinists' Tools and Supplies. Lathes  
on trial. Catalogue mailed on application.

182 West Second Street, CINCINNATI, O.



17, 24 & 27-INCH  
Engine Lathes

New Designs.  
THE MULLER MACHINE TOOL CO.  
8th and Evans Streets,  
CINCINNATI, O.

## POWER High-Speed Traveling Cranes.

WE are now prepared to build HIGH-SPEED POWER TRAVELING CRANES for any capacity of load, any length of runway and any width of span, with one or two trolleys on the bridge. These trolleys to work either slow or fast, together or independently, in like or in opposite directions, horizontally or vertically, while the bridge can be traversing slow or fast at the same time in either direction. The speeds of bridge on runway are 100 feet and 200 feet per minute; the speeds of trolleys on bridge are 50 feet and 100 feet per minute, and there are four hoisting speeds of 5, 10, 20 and 40 feet per minute; all can be varied quickly, without the least shock or jar, from zero to maximum or to any intermediate speed. The load is always automatically sustained, thus avoiding absolutely the great danger and anxiety which are inseparable from the use of those Cranes which require the operator to apply the brake. We have had one of these Cranes of 26 tons capacity in constant use in our foundry for nearly two years, and we offer them with full confidence for the greatest range of service. We invite the correspondence of parties interested in the subject.

WM. SELLERS & CO. Incorporated, Philadelphia, Pa.



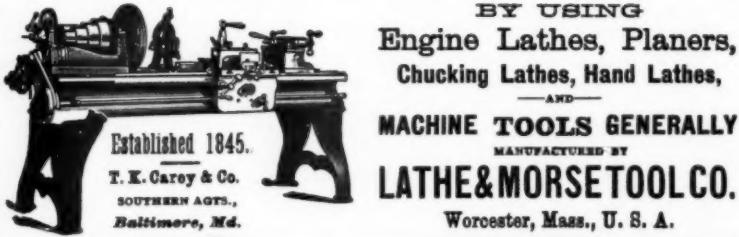
With a manufacturing experience of over half a century, we recommend these machines to be the best, simplest, most durable and combining all the essential elements.

ESTABLISHED 1832

BRADLEY AND COMPANY, SYRACUSE, NEW YORK.



## Build and Repair Your Machinery



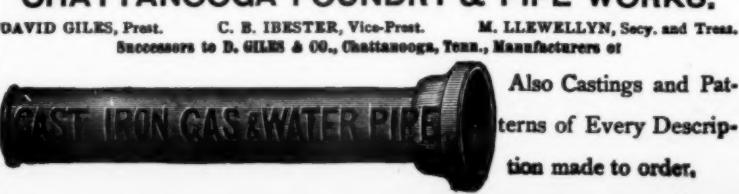
## South Pittsburg Pipe Works.

Geo. E. Downing, Pres't. JAMES BROWNE, Vice-Pres't. Dr. W. R. TOWNSHEND, Secy.



South Pittsburg, Tenn. WARREN WOOD & CO. 115 Broadway, N. Y. EASTERN AGENTS.

Manufacturers of



Also Castings and Patterns of Every Description made to order.

# HOWARD & BULLOUGH'S

OPENERS, LAPPERS, REVOLVING FLAT CARDS, ELECTRIC STOP MOTION DRAWING FRAMES, SLUBBING, INTERMEDIATE, ROVING AND FINE JACKS, (NEW PATTERNS 1886) ALL MADE BY TOOL WORK; EVERY PART EITHER TURNED, MILLED OR PLANED, AND CONTAINING MANY PATENTED AND VALUABLE IMPROVEMENTS. WARPERS, COPPER CYLINDER SLASHERS, (New Models.)

**SOLE IMPORTERS,**  
**RILEY & GRAY, - - BOSTON, MASS.**  
 CARD CLOTHING, WOOLEN AND WORSTED MACHINERY, Etc., Etc.

**PLATT BROTHERS & CO., LIMITED.**

**MACHINISTS.**

HARTFORD WORKS, OLDHAM, LANCASHIRE,

*Beg to call the attention of Worsted Spinners and Manufacturers to their Improved Machinery for*

**Carding, Combing, Preparing, Spinning and Weaving Worsted on the French System.**

PLATT BROTHERS & CO., Limited, ARE ALSO MAKERS OF THE FOLLOWING MACHINERY:

New Patent Cleaning Machines for Cotton. New Bale Breaker.  
 Crighton's Patent Opening Machines for Cotton.  
 Improved Hard Waste Breaking-up Machinery, of any Number of Cylinders.  
 Patent Burring Machines for Wool.  
 Machinery for Preparing, Spinning and Doubling Worsted Yarns on the English and French Systems.  
 Machinery for Preparing, Spinning and Doubling Cotton, Wool and Silk.  
 Ring Spinning and Doubling Machines.

Combing Machines for Cotton.—Heilman's or Whipple's Patent.  
 Patent Brick making Machinery.  
 Combing Machines for Wool, Worsted, &c.—Little & Eastwood's Patent.  
 Machinery for Carding and Spinning Silk Waste.  
 Power Looms for all Descriptions of Plain and Fancy Cloths in Cotton and Wool.  
 Sizing, Dressing, Warping, Beaming, Winding and Reeling Machinery.  
 Cloth-folding and Measuring Machines.  
 Hydraulic and Cam Bundling Presses for Yarn and Cloth.

Also Makers of PATENT MACARTHY COTTON GINS, Hand or Power, for long or short-stapled Cottons.

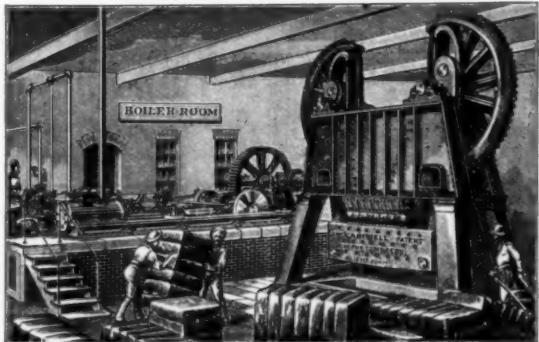
P. B. & Co. Lt. desire to call the attention of Cotton Spinners to their Improved Self-Stripping Revolving Iron Flat Cards.

FOR FURTHER INFORMATION AND PRICES APPLY TO

**SAMUEL WOOD, Agent, 123 Chestnut Street, Philadelphia.**

Agent for Thompson & Co.'s English Card Clothing of all kinds for Wool, Cotton and Worsted. Ramsden's Patent Hardened Tempered Steel Wire, Plain and Tin Plated, a specialty.

**The Campbell Cotton Compress Co.**



OFFICES,  
 59 & 61 Walnut St.  
 Cincinnati, Ohio,  
 U.S.A.

Cheapest and Most ECONOMICAL.  
 The Campbell Compress is the only machine that will run on small lots of cotton at a profit. Adapted to a small market. It does work equal to the best, and costs but one-half. Fully guaranteed. Correspondence solicited. Address

CAMPBELL  
 Cotton Compress Co.  
 CINCINNATI, O.

Patent Needle Pointed  
 Hardened and Tempered Steel Wire  
 For COTTON and WOOLLEN MILLS.

**T. K. EARLE MFG. CO.** **CARD CLOTHING,**  
 SEND FOR SAMPLES.  
 WORCESTER, MASS.

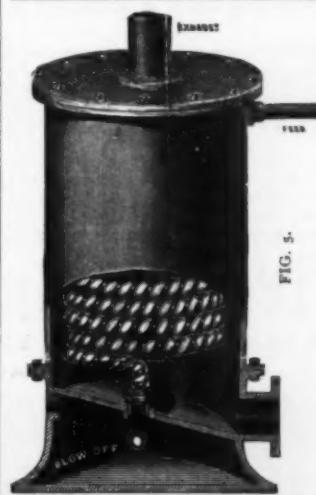
**BROWN & KING,** MANUFACTURERS OF  
**COTTON MILL SPECIALTIES.**

Roller Covering, Loom Pickers and Strapping.

Dealers in Roller Covers, Stock and Tools; Cotton and Woolen Mill Supplies

Full Line "Hick's" United States Standard Ring Travelers, Mill Wire Goods Spring Cotters, Belt Hooks, Lacing, &c., kept constantly on hand.  
 Wrought Iron Pipe Fittings and Brass Goods. Southern Agents for the celebrated "B. C. & D. Oak Tanned Patent Lap Belting, Galvin Compound Wedge Gate Valve, Imhauser's Watchman Time Detectors, Diamond Emery Wheel Machine Co., &c.

Office and Salesroom, No. 62 S. Broad Street, ATLANTA, GA.



THE  
**Wainwright Mfg. Co.**

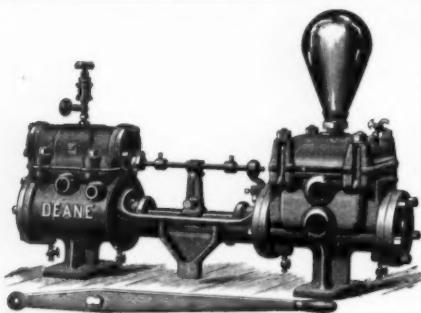
65 & 67 OLIVER ST.,  
 Boston, Mass.

MANUFACTURERS OF

**CORRUGATED TUBING**  
**FEED-WATER HEATERS,**  
 Condensers, Filters, Expansion Joints, Radiators and Water-Purifying Plants

For Preventing the Formation of Scale in Steam Boilers.  
 SELLING AGENTS:  
 NEW YORK—F. B. Aspinwall, 93 Liberty St.  
 PHILADELPHIA—Fairbanks & Co., 109 Arch Street.  
 PITTSBURGH—Fairbanks & Co., 309 Wood Street.  
 Send for Illustrated Catalogues.

*Buy "THE NEW SOUTH."*



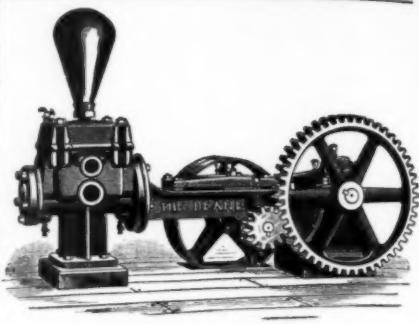
## THE DEANE STEAM PUMP CO.

HOLYOKE, MASS.

MANUFACTURERS OF  
Steam and Power Pumping Machinery,  
FOR ALL PURPOSES.

MORTON, REED & CO., Agents, BALTIMORE, MD.

Send for New Illustrated Catalogue, No. 22.



SOUTHERN SELLING AGENTS

MECKLENBURG IRON WORKS  
Charlotte, N. C.

E. V. WHITE & CO.  
Norfolk, Va.

M. SCHWARTZ  
New Orleans, La.

Boston Philadelphia

## Worthington STEAM PUMPS

HENRY R. WORTHINGTON

Chicago NEW YORK

SOUTHERN SELLING AGENTS

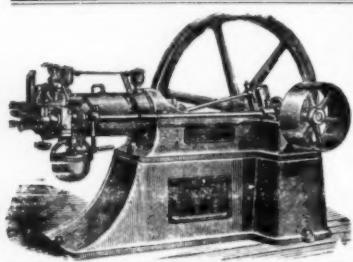
KENTUCKY MACHINERY CO.  
Louisville, Ky.

W. H. PERRY'S MACHINE WORKS,  
Nashville, Tenn.

LIVERMORE FOUNDRY & MACH. CO.  
Memphis, Tenn.

SEND FOR ILLUSTRATED CATALOGUE.

St. Louis San Francisco



## Over 10,000 in Use. Otto Gas Engine

Working Without Boiler, Steam, Coal, Ashes or Attendance.

Started instantly by a Match, it gives full power immediately. When stopped, all expense ceases.

Guaranteed to Consume 25 to 75 Per Cent. less Gas than any other Gas Engine Doing the same Work.

No explosions, no fires nor cinders, no gauges, no pumps, no engineer or other attendant while running. Recommended by insurance companies.

UNSURPASSED IN EVERY RESPECT for hoisting in warehouses, printing, ventilating, running small shops, &c. Sizes: 1 to 25-Horse power.

Branch Office, 130 Washington St., Chicago. OTTO GAS ENGINE WORKS, Schleicher, Schumm & Co. 33d & WALNUT STS., PHILADELPHIA.

WE MANUFACTURE

Automatic Sprinklers,  
Roving Frames,  
Rabbeth, Sherman, } Spindles,  
Whitin, Sawyer, }  
Double Adjustable Spinning Rings,  
Twisters, Spoolers, Reels,  
Spooler-Guides,  
Bobbin-Holders,  
Banding Machines,

Slasher } Warpers,  
Chain }  
Warper } Creels and Beams,  
Reeds and Combs,  
Stop Motions & Clocks,  
Balling Machines,  
Slasher Cut-Markers,  
Separators } Doyle,  
Sharples,

Lever Screws for Roving and  
Spinning Frames, Lifting-Rod  
Cleaners, Traveller Brushes.  
Temples } Dutcher, } With Latest  
Hardaker, } Improvements.  
Shuttle Guards, Durkin's  
Thick and Thin Place Preventer,  
Getchell's Improved Thompson  
Oil Can, Belt Hole Guards.

Milled Machine Screws,  
Special Milled Work  
of all kinds, etc., etc.

REPAIRS

For Spindles, Temples and all  
our Machinery furnished  
at short notice.

Send for Prices.

GEORGE DRAPER & SONS, HOPEDALE, MASS.



Tested Four Years Before Placing on the Market. Superseding the Ratchet.

Machinists, Boiler Makers, Mechanics and all parties having use for a Ratchet will find this Drill a great saving of time. Can  
be used in contracted places where a Ratchet cannot. Send for Illustrated Circular and Price List. Mention Paper.

F. F. WATERS MANF'G CO.

266 WASHINGTON STREET, BOSTON, MASS.



Instantaneous Clutch. No Lost Motion. Noiseless.

CHEAPEST PIPE & BOILER COVERINGS

JNO. A. McCONNELL & CO., 119 Water St., Pittsburg, Pa.  
SECTIONAL AND PLASTIC. PAMPHLET AND SAMPLES FREE. NAME THIS PAPER.

## The York Ice and Refrigerating Machines

York Mfg. Co.  
YORK, PA.

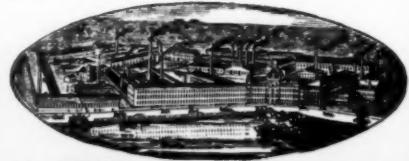
ALEXANDER BROWN & SONS, { ESTABLISHED 1811. } BALTIMORE. Transact a General Foreign and  
Domestic Banking Business.

Buy and sell Bills of Exchange on Great Britain, Ireland, and other foreign points. Issue  
Commercial and Travellers' Credits in Sterling, Francs or Dollars, available in any part of the  
world. Make Telegraphic Transfers of Money between this and other countries. Make Collec-  
tions of Drafts. Railroad, Municipal and other loans negotiated, and advances made on Cotton,  
Grain, Tobacco and other approved securities. Interest allowed on Deposits of Banks, Bankers,  
corporations and individuals. Members of Baltimore Stock Exchange. Buy and sell Stocks and  
Bonds in this and other cities. Private wire to Philadelphia and New York.  
BROWN BROTHERS & CO., New York, Philadelphia and Boston. BROWN, SHIPLEY & CO., London and Liverpool.

Washburn & Moen Mfg. Co., Worcester, Mass.

MAKERS OF IRON AND STEEL.

MANUFACTURERS OF



Iron, Steel and Copper Wire, Wire Rope, Barbed Wire.

New York Warehouse, 16 Cliff Street.  
Orange Warehouse, 107 Lake Street.

## Manufacturers' Record.

PUBLISHED EVERY SATURDAY BY THE  
MANUFACTURERS' RECORD CO.

R. H. EDMONDS, EDITOR.

OFFICE,

COR. EXCHANGE PLACE AND COMMERCE STREET  
BALTIMORE.NEW YORK OFFICE:  
Telephone Building, 18 Cortlandt St.

SUBSCRIPTION \$3.00 A YEAR.

BALTIMORE, JANUARY 14, 1888.

## Trying to Deceive.

A new paper has just been started in Durham, N. C., under the title of the "Southern Tobacconist and Manufacturers' Record," the first name being in light type and the second very bold, hoping by the use of the name of the MANUFACTURERS' RECORD to gain a position which it could not attain in any other way. Not only have the publishers adopted the name of the MANUFACTURERS' RECORD, but they have even tried to imitate the style of letters used in the heading of this paper. When a paper starts into existence with such evident intention to deceive the public, by using the name of a well-established journal, as in this case, it proclaims itself as lacking not only in honesty, but in the brains and the money needed to build up a paper. The MANUFACTURERS' RECORD desires to call the attention of the press and the public to this scheme, and to warn the people of the South against such a barefaced attempt to deceive.

THE Anniston Hot Blast has been purchased by Mr. Edmonds, formerly editor of the Baltimore MANUFACTURERS' RECORD — Exchange.

Our friend, as well as others, have made a mistake. The editor of the MANUFACTURERS' RECORD is still here. He has been rather industriously trying to push the MANUFACTURERS' RECORD since he first united in establishing the paper some years ago, and it is altogether probable that, if life lasts, he will still hold on to the MANUFACTURERS' RECORD for a good many years to come. It is not the editor, but the late business manager, who is trying to give Anniston a mighty live daily paper, and he will succeed. Nobody need doubt that. It may be as well to add that his retirement will, of course, in no way whatever affect this paper or its management. For over a year other matters have claimed his attention, and the entire business management of the MANUFACTURERS' RECORD, as well as the editorial, has been in the editor's hands.

## Railroad Building in the South.

As already stated in the MANUFACTURERS' RECORD, the railroad construction of 1887 was the greatest ever made in one year. About 13,000 miles of main track were laid, against 9,000 miles in 1886 and 3,608 in 1885. These figures, taken from the Railway Age, give us some idea of the magnitude of railroad building last year as compared with the two preceding years. The construction in the Southern States as compared with 1886 was as follows:

	1887.	1886.
Maryland	16	4
Virginia	64	34
North Carolina	184	168
South Carolina	104	115
Georgia	231	138
Florida	193	371
Alabama	515	60
Mississippi	99	149
Louisiana	65	23
Tennessee	68	56
Kentucky	168	68
Arkansas	153	36
Texas	1,035	543
West Virginia	53	104
Total	2,970	1,886

No better evidence of the South's progress in 1887 could be asked than these figures. In 1886 the South built 1,826 miles of railroad and in 1887 nearly 3,000 miles were constructed, an increase of 1,150 miles, or a gain of 63 per cent., while the gain for the whole country was a little less than 44 per cent. The most remarkable increase was in Alabama, where 515 miles of road were built in 1887, against only 60 miles in 1886. For every mile of road built in that State in 1886 nearly 9 miles were built in 1887. While other States made some very large gains this was the most remarkable percentage of increase.

At the usual estimate of an average cost of \$25,000 per mile for building and equipping new roads, the South put \$75,000,000 into these 3,000 miles built last year, in addition to the many millions spent in improving old roads, laying steel tracks, adding more rolling stock, &c. Verily the South moves forward with rapid strides, and yet her development has only fairly started. About five or ten years from now we will look back upon this period as simply a fair beginning.

THE New York Commercial Bulletin says that at the office in that city of the Thomas Iron Co., of Pennsylvania,

"it was stated that the present average cost of production is \$20 per ton. To cover this the basis of \$22 at tidewater would necessarily have to be obtained for No. 1 X foundry. Several other companies in the Valley are in a bad position."

The Thomas Iron Co. has 12 furnaces, with an aggregate annual capacity of 200,000 tons. If it is costing them \$20 a ton to make their iron now, we advise them to pull up, as Mr. Samuel Thomas, the founder of this company, has done, go South and grow up with the country. In that favored land they could make iron at so much less than \$20 a ton that they would be astonished. Moreover, they would be free from these constant strikes that are even now largely adding to the cost of their fuel, and consequently the cost of their iron.

## Abolish Internal Revenue.

The surplus is still with us, and it grows like a rolling snow ball. The receipts of the government from all sources during the month of December were \$29,325,285, and, as the expenditures were but \$10,400,682, the gain was \$18,924,603. Out of this must be paid \$3,500,000 for interest on the public debt, which will leave the actual surplus for the month \$15,424,603. During the same month the public debt was reduced \$15,250,000, while for the calendar year just ended the debt was diminished \$117,016,000. The amount of interest that must be paid in 1888 will be that much less proportionately than it was last year. In view of these facts the MANUFACTURERS' RECORD renews its appeal for the immediate repeal of the internal revenue laws and the discharge of the army of officials that annoy the people. How great this annoyance is was well stated last week by Hon. Wm. D. Kelley, of Pennsylvania, to an interviewer of the New York Press. The veteran statesman has studied this subject exhaustively. During the session of the Forty-Eighth Congress Southern Senators and Representatives went before the Ways and Means Committee of the House and urged such modifications of the law as would remove its more odious features. Judge Kelley collected many of the statements they made and presented them to the House in a speech entitled "Why the Internal Taxes Should be Repealed."

Since then he has continued his investigations while journeying in the South, and is strong in his conviction that the entire system should be abolished. In his interview in New York, Judge Kelley spoke of the ignorance of the subject betrayed by the President in his message when he asserted that there was no just complaint against the system, and said:

This assertion illustrates his (the President's) ignorance of the fact that before the imposition of those taxes there were in every part of the fruit and tobacco growing regions of the South men who owned a few acres of land upon which cotton could not be profitably grown or cattle pastured, but on which peach and apple orchards prospered, and that the fruit therefrom (distilled by the grower) was the source from which the cash was derived for the few purchases such men and their families made of the neighboring storekeeper, and for other drafts, such as the physician's annual bill. They might also grow some corn for family use or distillation, or patches of tobacco and corn, or tobacco with fruit. The establishment of the internal tax system and the methods of collection, in order to protect the proprietors of large distilleries in the ability to pay their taxes, worked a practical confiscation of the estates of many thousands of the small farmers of the South. The destructive effect of these taxes and the methods of their collection were specially oppressive in Tennessee and North Carolina, but were felt and resisted in every Southern State. Yet the message says: "When we consider that the theory of our institutions guarantees to every citizen the full enjoyment of all the fruits of his industry and enterprise, with only such deduction as may be his share toward the careful and economical maintenance of the government which protects

him, it is plain that the exaction of more than this is indefensible extortion and a culpable betrayal of American fairness and justice." Again it says: "It must be conceded that none of the things subjected to internal revenue taxation are, strictly speaking, necessities. There appears to be no just complaint of this taxation by the consumers of these articles, and there seems to be nothing so well able to bear the burden without hardship to any portion of the people." That eminent Georgia Democrat, Henry W. Grady, of the Atlanta Constitution, takes direct issue with the President on this point, and says: "When it is necessary to shed blood to collect an unnecessary tax, that tax should be abolished. That is one of the reasons why the excise tax should be abolished." I speak of the President's ignorance of the topics he discusses, and Mr. Grady knows what Mr. Cleveland evidently does not know—that the annual reports of the Commissioner of Internal Revenue all state the number of muskets and other firearms necessary to the maintenance of this system of taxation in the South; of the number of people wounded or killed by revenue officers, the number of such officers wounded or killed, and the number of alleged violators of the law arrested for trial, most of whom, after long detention and the reduction of their families to absolute want, are discharged by the district attorney or court in the absence of accusers, while the smaller number who are tried and convicted are sent far from home to Northern penitentiaries to be discharged possibly in midwinter without means to procure sustenance or to pay for transportation to their homes.

Had President Cleveland kept himself informed by reading the daily papers during the past 25 years of the general condition of the country he would never have made the mistake of asserting what he did. His ignorance was excusable while he was quietly living in Buffalo, but when, as President of the United States, it became his duty to give his views to Congress, such ignorance was unpardonable.

No one can dispute the truthfulness of Judge Kelley's statements. The records of the United States courts in every Southern district, the petitions sent to Congress at every session for years, the hearings before the Ways and Means Committee, and the archives of the Bureau of Internal Revenue abound with corroborative testimonies. To continue a system no longer needed, which has been fruitful of disasters, arsons and murders, is a crime against the people, for it is, in the President's own words, an "indefensible extortion and a culpable betrayal of American fairness and justice."

MR. YOUNG E. ALLISON, of Louisville, gives our readers an interesting article about the coal interests of Kentucky. Mr. Allison makes a strong plea for government improvements, which would prevent the possibilities of coal famines in the Ohio Valley country, and would cause a great development of Kentucky's coal fields. The MANUFACTURERS' RECORD is a firm believer in the wisdom of extensive improvements of our great waterways, and believes that Congress would act with wisdom if liberal appropriations were made for really meritorious river and harbor improvements.

### Home Competition Cheapens Cost.

Thanks be to President Cleveland for his message to Congress. It has brought prominently before the American people the question of protection, and no fine phrases or specious arguments can hide the main issue from their sight. The President boldly declared our American system of protection to be "vicious, inequitable and illogical," whereupon all the free trade newspapers in this country and England in spontaneous accord exalted his wisdom and praised his courage. It was a glorious ovation while it lasted, and the echoes of it have not yet ceased. But a "sober-second thought" has evidently come to trouble many of our free-trade friends. The country, they have reason to believe, was not prepared for the bold declarations of the message; in fact, it has not received them cordially, but on the contrary it appears disposed to question their wisdom, and to oppose the adoption of the President's recommendations. This is not at all agreeable to our free-trade friends, who are beginning to realize that they have been "too previous" in their exultations. Instead of advancing to the attack with colors flying, they find it a little more than they can do to hold the ground on which the President erected the Cobden Club flag, consequently they have assumed the defensive. At the same time they are endeavoring, as did the message to pull wool over the eyes of the people. The American farmer is surprised as he reads the free-trade papers to find what a deep interest their editors take in his flocks and fleeces, but he is still more astonished by their ignorance. "They know no more about it than the President did," says sturdy Rusticus, and, laughing at their stupidity, he sends a note to his member of Congress to post him as to the wool growers' wishes. Out in Texas the sheep husbandmen are not satisfied with note writing. They propose to send a delegation to Washington to tell their Congressmen that if the suggestions in regard to wool in the message should be embodied in law, it would destroy that great industry in their State.

The sheep growers are not the only parties who antagonize the "wool" propositions of the President. The manufacturers of blankets, carpets, clothing materials, and other textile fabrics composed in whole or in part of this animal fibre, have spoken their minds freely in opposition to free wool. But the most telling denials of the correctness of the President's premises come from consumers of woolen goods. Working-men say they can buy blankets, flannels and clothing now at lower prices than they ever could, and that the same is true of domestic cotton and knit goods; and what is more, they prove their assertions by indis-

putable evidence. The one great fact brought out by this controversy is that protection brings out home competition and that home competition cheapens cost, so that goods of domestic production are eventually sold at prices much less than they were when the market was open to all manufacturers. Another fact, the converse of the foregoing, is also established, viz: that when protection is withdrawn from a home industry, foreign producers flood the American market at a price that destroys domestic production, but no sooner is that accomplished than they restore prices to the original or a higher standard. The reduction of duty on nickel is a notable illustration of this. Some eight years ago a large part of the nickel used in this country for manufacturing and by the mint was obtained from a mine in Pennsylvania. The duty was \$2 a pound. It cost the mine owner \$3 a pound to produce it, and he sold it for \$4 a pound. In Germany it could be produced at much less. It was not thought expedient to give the Pennsylvania man a monopoly, therefore the protective duty was removed. Germany put nickel into this market at \$2 a pound, and work at the American mine and manufactory was suspended. When that result was reached German nickel was advanced immediately to \$4 a pound. After it had been held steadily at that price for several years, the Pennsylvanian thought it safe to resume operations. No sooner did he begin to put his metal on the market than down went the price. He saw it was useless to contend and stopped again and finally, when up went nickel to \$4 a pound and there it stays. The mine and the factory together gave employment to 500 men with a proportionate number of families. These had to seek some other occupation, while the Pennsylvania plant became a dead loss. This pertinent illustration (which we borrow from the New York *Press*) is but one of hundreds that might be adduced from the records of the ups and downs of American industries during the past sixty years. The MANUFACTURERS' RECORD knows that the same thing would happen to our iron and steel industries, and to the thousand and one manufactures subsidiary to them, were the suggestions of the message to be adopted, and therefore urges all engaged in Southern development to use whatever influences they can command to put a stop to every movement that tends to the abolition of our national policy of protection.

PROF. JOHN R. PROCTER, director of the Kentucky Geological Survey, has issued a report on the "Progress of the Survey for the years 1886 and 1887." This is an exceedingly interesting document, and the facts and figures given fully support the statements often made in the MANUFACTURERS' RECORD as to the wonderful iron and coal wealth of that State.

### The South to Blame.

In view of what the MANUFACTURERS' RECORD has repeatedly said as to the damage done to the South by the petty local jealousies that are constantly displayed in denouncing every place but the one in which the writer or speaker lives, the following letter from a leading New York banking house, largely interested in Southern enterprises, will prove of interest:

NEW YORK, Jan. 6, 1888.

*Editor Manufacturers' Record:*

In the MANUFACTURERS' RECORD of this week appears an editorial called "The South's Enemies at Home," which prompts us to write you on a kindred subject, on which some few months ago you had an article namely, "The Jealousies of the Different Cities in the South." From conversations we have held with several New York "press men," we are sure that the animus of their articles is inspired wholly in the South. They go there in a fair minded and even favorably prejudiced spirit, but when on the field the promoters of each place, instead of only showing the advantages of their locality, lay greater stress and devote more time expatiating on the disadvantages of some rival, and the journalist returns imbued, to too great an extent, with the defects of each place, that are natural to all new cities, uppermost in his mind. Instead of working with the united spirit of the Western cities, petty local jealousies result in engendering such articles as appeared in the *Herald* and the latter of the series of articles in the *Times* last spring, the first of which articles plainly indicate the above fact. The result is that it strikes back on the people from whom it emanates.

And so the South itself, according to the statement of this firm, and they are in a position to know, is to blame for the slanders that are heaped upon it from time to time by Northern papers.

NEXT week the National Convention of the American Shipping and Industrial League will meet at Willard's Hall, in Washington, D. C., and continue in session several days. A large majority of the cities of the entire country will be represented by delegations, appointed by their respective commercial bodies. The number of men prominent in mercantile, manufacturing and commercial pursuits will probably exceed any ever before gathered at the national capital. In his circular calling this convention, General Wheeler, president of the League, says:

The London *Times*, the British *Shipping Gazette*, and *Lloyd's List*, and other foreign interests, are already declaring that they must take adverse means to neutralize the League's success in arousing our people from dormant submission in paying tribute to foreign shipping. Our League must therefore remain a power in our country to protect the greatest American industry, into which all other industries enter, and to save our people from the present economic waste of \$150,000,000 per year, the deprivation to thousands in employment, and the robbing of our farmers of that daily demand for supplies, so enormous, now purchased abroad.

Every industry except shipping receives the fostering care of the nation, and in order that our merchant marine may become the object of economic legislation, the Shipping League urges upon you the importance of attending our convention at Washington.

### Let Others Do Likewise.

The following preamble and resolutions were adopted at a meeting of the mayor and aldermen of Tuscaloosa, Ala., last Wednesday:

Whereas, the question of a reduction or removal to the duties upon imported coal, iron ores and their products is of paramount importance to the people of Alabama and their rapidly developing industries; therefore be it

Resolved, by the mayor and aldermen of Tuscaloosa, Ala., that our representatives in Congress be requested—first, to favor raising the necessary revenue for the support of the government by a tariff upon imports, so adjusted to prevent unequal burdens and to encourage the development of our material resources, and at the same time afford a just compensation to labor; second, to use their best efforts to prevent the removal of or any reduction in the duties on coal, iron ores and their products.

A petition to the same effect is receiving signatures of a large number of the citizens of Tuscaloosa. From every part of the South there should go up similar petitions, that Congress may be forced to see that the people of that section are bitterly opposed to the free-trade ideas advocated by President Cleveland.

IN the year of grace 1860 a volume was sent out from the press of Pritchard, Abbott & Loomis, of Augusta, Georgia, and sold by subscription in the Cotton States. It was edited by E. N. Elliott, LL. D., president of Planters College, Mississippi, and bore this title, "Cotton is King." It contained arguments by Messrs. Hammond, Harper, Christy, Stringfellow, Hodge, Bledsoe and Cartwright, to prove the kingship of cotton and all that that implied. The philosophy of the book and the period was summarized in this declaration: "If they could establish free trade it would insure the American market to foreign manufacturers; secure the foreign markets for their leading staple; repress home manufactures; force a large number of the Northern men into agriculture, and multiply the growth and diminish the price of provisions." The gentlemen who argued in favor of that theory were as honest in their convictions as are many of the free trade advocates of to-day, but they saw the end from the beginning, which cannot be said of those who now claim that free trade would not hurt American manufactures. They were very frank in telling what they wanted, and why. Compare their plain statement, made more than twenty-seven years ago, with the first responses of the British press to the recent message, and the similarity of thought will be apparent. We commend this ante-bellum creed of faith to the careful study of all interested in Southern development, and especially to the tens of thousands of ardent young men who see in that development opportunities for gaining wealth and position, such as never before opened up before the youth of any nation.

## TUSCALOOSA, ALA.

## An Old Town Converted into a Thriving City.

## Pertinent Facts and Figures Showing Steady Growth and Development.

[Special correspondence MANUFACTURERS' RECORD.]

ON THE ROAD, January 3, 1888.

In no part of the State of Alabama will the traveler and the sight-seer find more to please and think over than he will witness in the picturesque and well laid out city of Tuscaloosa. Years ago this place was the resort of the wealthy and the well-to-do. It was also the mecca for the people from the lowlands, who came hither to recuperate and to rest from the weary labors of the busy season. The impress and manners of the past still cling to the city. Here and there, in the architecture, the well-kept grounds and the symmetrical placement of the majestic oaks, are still to be seen evidences of a past generation, who had time, leisure and money to court the graces and to hand down to posterity humanizing legacies of poetry and peace.

Everything has undergone a change. New innovations have taken place. The passive city of oaks and laurel is to-day a center of hum and industry. New enterprises, new methods, and new ventures rule the hour. In other words, Tuscaloosa has outgrown its own draperies and has become a giant in the race where once it toddled with unsteady step. The very mistakes of a past age become, as it were, the powers of the present.

Where is this beautiful city of Alabama? asks the reader.

Tuscaloosa is situated upon a high, level and well-drained plateau, at the head of navigation on the Warrior river. It has an abundant supply of the purest water, and the healthfulness of the locality is proverbial. To the south stretches the broad alluvial bottoms of the Warrior river, whose fertile acres yield the finest crops of corn, hay and cotton, while to the north lies the great Warrior coal field, which is now just on the eve of a mighty development. In fact, the city itself, to use the strong language of Prof. Henry McCalley, assistant State geologist of Alabama, in his report upon the Warrior coal field, "stands on the greatest thickness of coal measure in the known world."

Tuscaloosa is situated at what may be called the three-fold intersection of the coal and iron field, and water transportation of the State. The iron ore, in inexhaustible quantities, lies to the northeast, along the line of the A. G. S. R. R. to within 17 miles of the city. Southward, another, and hitherto unknown field extends to within five miles. Reaching down from the north, and actually running under the city, is the great Warrior coal field, which is thicker in Tuscaloosa county than at any other point in the State. To the south, the Warrior flowing into the Tombigbee, and bisecting the great cotton belt of the State, furnishes a water-way to the gulf, which means access by water to the entire Atlantic and Gulf Coasts, and as soon as the isthmus is opened, to the entire coast of the United States.

Situated so favorably, is it not a wonder that this place should have remained in so passive a state? True, it was for many years, as it is now, a seat of learning—a city of schools and colleges, an intellectual center of moral worth and social prestige, but with the great natural advantages, circling around for a radius of 50 miles, it is indeed a miracle why matters should have remained as they were for so many years. I cite only one instance of many as to the wonderful natural resources of the place; and as it comes from official source, and

from a party well known in the State, greater is its import.

The following extract from the geological survey of Alabama, by Prof. Henry McCalley, is enough to convince the incredulous:

"Tuscaloosa is at the present head waters of navigation of the Warrior river, and in the bed of the river just below the bridge is the most southwestern end of the great Appalachian coal field, so far as can be seen. Provided the strata retain the thickness of their out-crops, we believe that Tuscaloosa stands on the greatest thickness of coal measures in the known world, and a thickness of coal only secondary to that of West Virginia. These estimates take into account merely the additions from above; for, of course, we cannot tell what has happened to the sub-conglomerate measures, though several of their most western out-crops might lead one to infer that they, too, had grown in thickness. The measures, as they become covered up at Tuscaloosa, are believed to be, at the least, over 3,000 feet in thickness, with nearly 50 seams of coal of an aggregate thickness of nearly 100 feet of coal."

## HISTORICAL NOTES.

The "red man of the forest" gave to this place a euphonious name, as it has always been customary with this nomadic tribe, each place having a certain significance, as, for instance, the beautiful streams in Western North Carolina. Tuscaloosa, it is said, means "black warrior," from two Choctaw words, *Tusca*, "warrior," and *Lusa*, "black." The town took its name from the beautiful river on whose banks it is located, for the aboriginal name of the river that is now called Black Warrior was Tuscaloosa. The Creeks called the river *Petka Hatche*, which means "River of Caves."

The Choctaws long claimed this region, and in 1541 were the lords of all they surveyed for many miles around. But along the year 1800 the Creeks, being the more powerful tribe, came along and took possession. The first white men pressing the soil where now stands the city, were named, respectively, Emanuel York and John Bartow, who settled here in 1816. In the year 1818 the population consisted of 600 souls. In 1825 Tuscaloosa was chosen by the State legislature as the seat of government. The State University was chartered and located at Tuscaloosa in 1821, but not opened until 1831. In 1845 the capital was removed to Montgomery. Rich in historical reminiscences, but still richer in natural and productive wealth, the city has gone on (slowly, to be sure, until now) until, at this present moment, it is commanding the attention of the outside world to a very large extent.

## NATURAL ADVANTAGES.

Just as the schoolboy's prism has become the astronomer's spectroscope, revealing untold wonders never before dreamed of in man's philosophy, just so are the practical men of the South revealing the untold wealth of this favored section, by means of careful study, observation and research into the bowels of the earth.

Tuscaloosa is no exception. Her advantages are as varied as the trees of her forests. She is situated, in the first place, to the Alabama mineral field, as Pittsburg is to that of Pennsylvania; that is to say, on the head waters of the only water outlet in one direction, and in direct contact with the coal ore and limestone. In addition, she has cotton at her doors, with water power of sufficient force to drive as many spindles as bales of cotton raised to the acre. Her position, advantage and possibilities for small manufactures are hardly to be computed. Tributary to her are immense bodies of fine long-leaf pine, and hard woods in endless variety, which can be manufactured into all kinds of implements, furniture, cabinet work, &c., &c.

The city stands on the northern edge of the great cotton belt of Central Alabama, and west of her is the corresponding region of Mississippi. She literally stands on a bed of coal, with iron in close proximity. Her water advantages in the way of shipping cannot be surpassed, and when she gets the just appropriation from Congress, to which she is entitled, she can ship coal at the rate of 35 cents to the Gulf and to the coast. In the manufacture of iron, where the raw material is so cheap, accessible and abundant, she can stand to the front with any place in the State. For the manufacture of all articles made from wood her resources and advantages are equally great.

Tuscaloosa's advantages for the manufacture of cotton, considering her proximity to both the cotton and coal fields which intersect exactly at this point, and the consequent fact that both material and fuel will be at a minimum here, need only to be stated to be recognized. In addition to these advantages, the well known fact that the Great Black Belt of Alabama, one of the finest sections of the world, is nearby with soil of bottomless depth and inexhaustible fertility, where everything may be grown except, perhaps, the tropical fruits, is another wonderful ascendancy over most places in the State. The utilization of all these forces of nature—where much may be had for the asking—would soon place into the hands of all the people in this locality every comfort, convenience and helps to a better living, which are now drawn from a territory north of the Ohio river.

## RAILWAY FACILITIES.

One great drawback to Tuscaloosa has been in the past, as well as in the present, an insufficiency of steel rails, where the iron horse could come in from divers directions. There is fault somewhere. It may be that other roads have not sought entrance here, but that as it may, it should be the duty of the people to encourage the introduction of the railroads, in order to give the best possible advantages to all in the way of freights, and other benefits which necessarily follow. Railroads, newspapers and good hotels do more to civilize man than any other agencies known to man. Therefore, get all the roads you can, patronize your local papers, by all means, and create the first proprietor of a hotel you catch dishing up hot bread and fried food.

It is not necessary to speak at any length in regard to the Queen & Crescent, except to call attention to the magnificent outlet it offers for all manufactured goods and coal to New Orleans, the great seaport of the South, and by its line via Vicksburg and Shreveport and connections beyond into the heart of Texas, to the markets of that great and growing section, the greatest consumer of all sorts of manufactured goods south of the Ohio river. The other end of this great system, being rooted at Cincinnati at the headquarters of the Ohio and Illinois meat and grain producing region, makes it a fine feeder to the jobbing and commercial interests of the place.

The Tuscaloosa Northern, now under construction, runs nearly due north through the undisturbed heart of the Warrior coal field. In the section of this field extending from Tuscaloosa north about 25 miles lies the mass of the future coking coal of the State. Not only is this so, but in this portion of the field all the conditions of mining are at their best. Thick veins, slight inclinations, good roofs and outcrops above water level. This road's objective point is a junction with the Kansas City Railroad. It will doubtless be met by a road from Sheffield & Florence, thus giving a line from the Warrior to the Tennessee, through the heart of the coal field.

The Chicago & Gulf, which contemplates a line from the Tennessee State line

via Tuscaloosa to Mobile, has also been surveyed, and is said to be almost in shape to commence operations. It is becoming necessary that Montgomery, Ala., should put herself in connection with the Kansas City road in the interest of her jobbing trade. A road is in contemplation consequently from Montgomery to Tuscaloosa, known as the Montgomery & Northwestern. This will pass through Cahaba coal and iron field in Bibb county, and connect with the Tuscaloosa Northern at Tuscaloosa.

The Macon, Tuscaloosa & Birmingham Railroad, from Macon, Miss., on the Mobile & Ohio Railroad, has been surveyed between Macon and Tuscaloosa, and rights of way and subscriptions of land, labor, ties, etc., obtained along the route. Large subscriptions in stock and bonds have been voted to it by Macon and Noxubee county, Miss. Negotiations are pending with the Natchez & Jackson Railroad for a combination of interests, which would result in a through line from Birmingham via Tuscaloosa to the Mississippi river at Natchez. It is also contemplated to extend the road via Alexandria, La., to Houston, Texas, thus connecting the great consuming market of Texas with the manufacturing district of Alabama.

It is also contemplated to induce the Warrior Coal Field's Railroad, whose proposed termini are Meridian and Decatur to come via Tuscaloosa and use the Warrior as their avenue to Decatur. This road is now building from Meridian to Gainesville, Ala. This road would also largely increase the cotton receipts and general trade of the town.

## THE HOUSTON, NATCHEE, TUSCALOOSA &amp; BIRMINGHAM RAILROAD.

This contemplated road will, when completed, be a very important factor in the development of Tuscaloosa. It is estimated that this road will cost \$16,000 per mile to build it. It will pass over coal, considerable iron ore and timbers; the veins of coal are horizontal and at the base of high hills; these veins range from 3 to 7 feet in thickness. It is stated that this road is now in the hands of Northern capitalists, and will be pushed forward to completion at an early day. It behoves the citizens of Tuscaloosa to give all the aid they can in order to further this great factor in their industrial progress and enterprise.

## PERTINENT FACTS OF THE HOUR.

Tuscaloosa is making a steady push forward in the industrial needs of the hour. Her policy has been to make haste slowly, and in this respect she is right. No mushroom growth can be healthy. Progress upon substantial foundations is the spirit manifested by the good people of Tuscaloosa. Here are pertinent facts worth considering concerning this charming city:

6,000 inhabitants.  
12,000 bales cotton received annually.

2 cotton factories, paying 50 per cent on capital.

2 planing, sash and door factories.

6 brick yards, 3 run by steam.

3 steam cotton ginneries.

2 large female colleges.

1 large male high school.

2 fine public schools—1 white and 1 colored.

1 colored theological college.

1 State university, \$500,000 endowment.

1 State insane hospital, 700 patients.

4½ miles street railway.

1 belt railway, steam motor.

1 new railroad under construction—Tuscaloosa Northern—to connect with Great Pacific, Kansas & Birmingham & Sheffield Railroad, running due North over splendid coal and timber all the way.

1 foundry and machine shop.

1 boiler factory.

\$60,000 water works under contract.

\$24,000 ice factory and electric light under contract.

\$500,000 coal and coke company forming.

\$1,000,000 coal, iron and land company, over 50 per cent. of capital paid.

First prize for coking and blacksmith coal awarded to Tuscaloosa county by Piedmont Expansion, 1887.

## LIST OF INDUSTRIAL ENTERPRISES NOW IN OPERATION.

Tuscaloosa Cotton Mills, value about \$80,000; employ 145 hands.

Tuscaloosa Yarn Mills, value \$15,000; 35 hands.

Tuscaloosa Street Railway, completed and in operation to Lake Lorraine.

Tuscaloosa Cotton-Seed Oil Co., value \$40,000; 40 hands.

Tuscaloosa Brick & Tile Co., value \$35,000; 50 hands.

Tuscaloosa Foundry & Manufacturing Co., value \$25,000; 12 hands.

Warrior Foundry & Machine Works, value \$2,500; 4 hands.

Robt. Wilson, grist mill and wool carding, value \$4,000

Suspender factory, value \$2,000; 5 hands.

Davis & Daniel (col.), brick yard, value \$600; 11 hands.

Taylor & Turner (col.), brick-yard, value \$1,000; 13 hands.

The Tuscaloosa Manufacturing Co., paid-up capital of \$90,000; 7,500 spindles, 240 looms, 275 hands; makes 750,000 pounds yarn and 3,600,000 yards plaids, checks and stripes per year.

LIST OF ENTERPRISES UNDER CONTRACT AND BUILDING.

The Tuscaloosa Northern Railway.

The Friedman Furnace, capital stock \$300,000.

Warrior Brick & Building Co., 20 employees.

W. F. Adams & Co., brick-yard; 18 employees.

Tuscaloosa Cotton-Seed Oil Mills, cotton gin, value \$5,000. There is but one other cotton gin in the country of equal excellence with this one.

G. T. Ingraham, lumber, coal and wood yard.

The Tuscaloosa Building & Loan Association, capital stock \$200,000.

Tuscaloosa Belt Line, steam motor, passenger and freight traffic. Supplies all purchased. Line will be in operation in November.

Macon & Tuscaloosa Railway. Charter recently amended to Macon, Tuscaloosa & Birmingham Railroad.

The Tuscaloosa Coal, Iron & Land Co. has erected a number of houses for sale and rent, and will build more.

A new hotel, constructed of brick, four stories, is now approaching completion.

The Merchants' National Bank has just completed a new building, pressed brick and terra cotta; one of the handsomest banking houses in the South.

A large and commodious public school building is also building.

The Allen & Jemison Co., lumber yard and planing mill.

Tuscaloosa Electric Light, Ice & Power Co., capital stock, \$30,000.

Here is an exemplification that the New South is becoming the industrial South. The expression does not necessarily imply any change in the political or social creeds. It means a change in the aims of the people, a change in occupation and a fuller sympathy with cosmopolitan ideas. The change, while more marked in this State than anywhere else in the country, is not confined entirely to Alabama, but the entire South. Such men as Tyndall and Spencer are the sources of this transformation, and Bacon is the father of them all. These philosophers have taught the race that to reach the highest physical and intellectual development, to secure the greatest happiness to the greatest number, men must study the physical facts of existence and gain all the mastery possible over the material objects and forces with which nature has endowed them.

#### EDUCATIONAL FACILITIES.

Tuscaloosa may well be termed the educational center of the State. The University of Alabama is located at this place, and the magnificent buildings and ample and beautiful grounds would be an attraction to any city. Connected with the university is a large preparatory institution.

The State University under its present able management is undoubtedly one of the best and most successful institutions of

learning in the South. It is eligibly and beautifully located, about two miles from the center of the town. The buildings are attractive in architectural design, and the grounds, comprising about 36 acres, are lovely in the grandeur of their stately and majestic trees. Tuscaloosa has also two of the largest and best equipped female colleges in the South—the Alabama Central Female College and the Tuscaloosa Female College. The University High School for boys, in addition to its local patronage, draws a large number of boarders from other points in the State. For people seeking a change of home life this great item of educational advantages and facilities cannot be lightly passed over. In no part of the South are there to be found more abundant facilities in educational matters.

#### FACTS FOR THE CAPITALIST AND THE INVESTOR.

Cheap coal is the first requisite for a manufacturing and iron-making city. Tuscaloosa is so well equipped in this particular that this one consideration alone would build her up. She is situated upon a bed of coal unequalled in this country, which extends for miles around. The last report of the State geologist says:

"The coal measures of this county are believed to be thicker than in any other part of the Warrior field, or in any other field of the known world. There are in these measures some fifty-three seams of coal, which vary in thickness from about two inches to fourteen feet, and which have an aggregate thickness of about 125 feet of pure coal. Of these fifty-three coal seams twenty five are of workable thickness, or contain eighteen inches and over of pure coal; of these twenty-five seams fourteen have two feet six inches and over of coal; of these fourteen seams nine have over four feet of coal, and of these nine seams three have more than six feet in thickness of coal."

Iron ores are as equally convenient and accessible as coal. The hematite ore of the Birmingham Red Mountain is found along the Queen & Crescent route 16 feet thick, the analysis showing a splendid percentage of metallic iron, within 15 miles of Tuscaloosa. Coal, iron ore and limestone are all in close juxtaposition. Here is food for reflection for manufacturers of all kinds and natures.

Within eight miles of the city is an immense body of untouched virgin long-leaf yellow pine, probably the largest forest near a consuming market in the entire State. Wood manufacturers will do well to investigate this fact. No better opportunity is offered the capitalist than in this industry of converting the native woods into articles of use and utility.

Building stone, noted for its wonderful variety and susceptibility of bright polish, can be had for the digging, while the superior clay which your correspondent tested in company with a well-known citizen of the place, possesses many advantages for the making of brick. The pottery clay, extending over a large area in the immediate vicinity, is beyond all doubt the finest in the State.

The basis of all wealth and production, agriculture, when properly carried on, can be engaged in here at a profit with a small outlay. The inauguration of large truck farms near the city would pay admirably. When it is known that nearly all the vegetables that are consumed by the people here come from afar, does it require much financial reckoning to say whether this industry would pay?

The cotton region in close proximity would justify 1,000,000 spindles in daily operation. Where the raw material is grown there it should be manufactured is a fundamental truth in political economy, and inasmuch as the fleecy staple grows in such abundance and maturity in fine texture and fibre, where is there a place

so advantageously situated for the establishment of cotton factories?

Being situated at the head of navigation on the Black Warrior river, the only navigable stream to tide-water running through the Alabama mineral fields, is a grand advantage in the economical measures of the day. The next thing after the manufacture of an article is to get it to the markets of the world as cheap as possible. The Black Warrior river is navigable for a longer period of the year than is the Ohio from Pittsburgh to Cincinnati. An extract from Col. Harding, the efficient United States engineer, is given herewith in substantiation of the above:

"The present facilities afforded by the Warrior, it seems to me, are not fully appreciated or utilized as they might be. A river that gives seven months of uninterrupted navigation is a boon that in many places would be gladly accepted, and not treated with neglect because it did not give more."

The Erie canal is open but eight months in the year, and many of the Northern streams are closed by ice in the winter, yet these channels are thronged with commerce while they can be used.

It may be interesting to compare the navigable season of the Warrior with that of the Ohio, and I accordingly give below a table of columns, of which No. 1 shows, from the records of 23 years, the average number of days in each month during which the Ohio, at Pittsburgh, had 6 feet and over in its channel.

No. 2 shows the corresponding table for the Warrior, in 1885, and No. 3 the number of days, for the same year, during which a 10 feet depth existed.

I think the year 1885 gives a little better showing for the Warrior than a just average; but I use that year as it happens to be the only full record that I have at hand:

	No. 1.	No. 2.	No. 3.
January	18	31	24
February	16	28	28
March	25	31	22
April	26	30	30
May	17	25	12
June	8	30	28
July	5	17	0
August	4	0	0
September	5	10	2
October	5	5	3
November	9	30	20
December	17	31	21
Total	355	368	220

From the above it appears that, taking 1885 as a criterion, the Warrior gives more days for towing, even in its present condition, than the Ohio, and that with the contemplated improvements perfected, the towing season will equal that of the Erie canal. Of course, perennial navigation will add considerably to the value of the Warrior, and it is not to be doubted that the government will provide for it when business demands, since the general government alone can undertake it. The work is as much outside the province of private enterprise, or the State, as would be the building of a postoffice or custom-house, and therefore when the commercial necessities of the community require it, it will be the duty of the government to afford the facilities needed."

#### THE TUSCALOOSA COAL, IRON & LAND CO.

Much of the prosperity of the city in industrial matters is due to this company. Through the well-directed efforts made by the management of this organization has the place been advertised far and near. Mr. W. C. Jamison, who has been mayor of the city for many years, is president of the company. The selection of such a man, practical, observing, and progressive in all methods, was an excellent move for the company to make. His work speaks for itself.

The Tuscaloosa Coal, Iron & Land Company own and control a greater part of the unimproved land of the city. Besides this they own many thousand acres of valuable timber and coal lands, together with fertile valleys near by and mineral properties in close proximity to the city.

It will pay the prospective settler, capitalist and the investor to look down this way before investing. They may be sure of a courteous welcome and hospitable treatment by each and all of the citizens of this beautiful and fruitful county.

#### THE PRESS.

The Times and the Gazette are two levers to which much of the real and substantial prosperity of the place is due. The Gazette, old in the course, has tugged away until the type has become smooth, in advertising and making known the wonderful advantages of the place, while the Times, a new recruit in the field of journalism, is laboring with much zeal and power to let the outside world know of the wonderful advantages and possibilities of this divinely favored locality.

The future of Tuscaloosa is an assured fact. How can it be otherwise when so much of genuine manhood, Christian spirit, push and energy, and a due sense of justice, permeates the whole life-fabric of the city in all of her methods looking to the upbuilding of a city on firm and solid foundations, which neither time or age can weaken, impair, demolish nor destroy.

HINSTON A. HELPER.

#### The American Iron Trade in 1887.

The year which has just closed was one of great activity and fair prosperity for the iron trade of this country. Production in all leading branches of the manufacture of iron and steel was the largest in our history—larger than in the remarkable year 1886, when all previous achievements were left far behind. We estimate our production of pig iron in 1887 at 6,250,000 gross tons, or about 600,000 tons more than in 1886, when our production was 5,683,329 tons. Our production of Bessemer steel rails in 1887 was about 1,950,000 gross tons, or about 375,000 tons more than in 1886, when our production was 1,574,703 tons. In addition to our large production of pig iron in 1887 we also consumed about 500,000 tons of imported pig iron and about 160,000 tons of imported steel rails. Our imports of iron and steel in other forms in 1887 were also very large, the total importations of iron and steel in all forms aggregating nearly 1,800,000 tons. Our production of iron ore in 1887 was about 11,000,000 gross tons, and our imports in the same year amounted to about 1,250,000 tons. In 1886 we produced about 10,000,000 gross tons of iron ore and imported 1,039,433 tons.—Bulletin Iron & Steel Association.

A CONTRACT has been signed for building gas works at Decatur, Ala., to cost \$200,000 and to furnish gas for fuel as well as for illuminating purposes. It is to be furnished to manufacturers at a cost not to exceed \$1 a ton for coal. Speaking of this enterprise Judge Bond, the manager of the Decatur Land Co., said:

"I regard this as the most important improvement or manufacture yet secured for Decatur, since it places the prices of fuel so low that manufacturers are enabled to make their goods here as cheaply as anywhere in the United States so far as their dependence upon fuel is concerned."

MESSRS. FRANK C. HOLLINS & Co., bankers and brokers, of New York, have issued an unusually neat pamphlet designed to show the value of railroad bonds as investments. The facts that they present in favor of railroad bonds as compared with other investment securities make a very strong case and are well worthy studying.

## KENTUCKY'S COAL FIELD.

## The Treasures Reached by the Kentucky River and Awaiting Means of Transportation.

## Congress Called Upon to Complete the Improvements of the River in the Interest of Cheap Coal in the South.

[Special correspondence MANUFACTURERS' RECORD.]

LOUISVILLE, KY., Jan. 2, 1888.

In the midst of the greatest coal famine under which the Ohio and Mississippi valleys have suffered for many years, attention has at last been turned to an important question that has been very long neglected. When cities like Louisville and Cincinnati—accustomed to paying from six to nine cents per bushel for coal the year round—are compelled to pay sixteen and eighteen cents for the commonest grade of coal obtainable, the fact that both valleys are practically dependent upon the Pittsburgh combination, not only for supplies but for prices, is made painfully apparent. And this fact exists in spite of the knowledge, many years possessed, that the Eastern Kentucky coal field, covering an area of 10,000 square miles, contains deposits of bituminous coal almost, if not quite, equal to the Pittsburgh product, besides cannel coal of unequalled richness and purity, and over 1,600 square miles of coking coal. The quality of the bituminous coal in the Eastern Kentucky coal field is not fully known, because it has been practically inaccessible, and the best could not be transported if mined. The railroads that have succeeded in touching the field at several points in the past few years have barely touched it, and yet they have put on the market a grade of coal that has proved as desirable and satisfactory as the best of the Pittsburgh district, and all that could be handled has been promptly marketed.

The question that has been raised by the coal famine is whether the Federal Government can be induced to complete the important improvements of the Kentucky river, and thus render navigation to the coal fields practicable the year round. In 1879 the State of Kentucky ceded to the Federal Government all the improvements of the river constructed by the State and the right to make all further works necessary for reclaiming the stream for navigation. The State had constructed five locks and dams, giving slack navigation for 95 miles, at a cost of \$901,932. These had been built between 1836 and 1849, and owing to the war and other causes had fallen into decay, so that the Federal Government had first to expend many thousands of dollars in repairs and rebuilding when the river was ceded. In addition to this it constructed a dam at Beattyville, the head of navigation, but it was found that the passage of the chutes was too dangerous for navigation, and the work had to be torn out and will be reconstructed. The stone for another lock has also been contracted for, and at the rate at which the government is carrying on its work it will require some fifteen years to build the scheme of improvements. Major Amos Stickney, United States engineer in charge of the river, estimates that there must be ten additional locks constructed, requiring the sum of \$2,035,000 in appropriations. If all the money necessary for building these were available at one time, the work on the river could be carried on at the rate of three or four locks and dams each season. But the government has been appropriating money at the rate of \$75,000 to \$125,000 per annum, and it can thus be seen that it will require many years to complete the work.

The coals that would be released to the South by the opening of this river are of

The opening of this river is of immense importance to the whole South. A great many cities and towns along the Ohio and Mississippi rivers depend for their supplies for manufacturing purposes, as well as for grate uses, upon the coal brought from Pittsburgh annually. The Frankfort, Ky., Board of Trade have made estimates as to the cost of the coal famine to a very limited area of consumption during the present winter. Taking in only that territory between Cincinnati and Louisville, inclusive, it is shown that there is a total daily consumption of 270,000 bushels. Estimating the excess in price for coal for the famine period at 8 cents per bushel more than was paid under normal conditions, this territory had had a daily loss of \$21,600, or a total for 120 days of \$2,592,000. This is a very low estimate, since it is a matter of common knowledge that the excess of prices in these cities has been more than 8 cents per bushel. In Cincinnati, for instance, it is 10 cents. In some of the towns intermediately situated coal has been bringing from 26 to 31 cents per bushel, an excess of from 15 to 21 cents per bushel. The loss in this territory would probably be nearer \$3,000,000 than \$2,500,000. So it will be seen that a famine in a single year has cost the people of a very circumscribed section about one half more than the whole improvements of the Kentucky river would cost, according to the estimates of the engineer in charge.

The question now arises whether the opening of the Kentucky river for slack-water navigation to its head, at the Three Forks, would alter this state of affairs. Coal mining has been carried on in a small way at the Three Forks of the Kentucky for the past 40 years. The only market that could ever be reached with anything like certainty was found in a few small towns along the river. Without any possibility of engaging systematically in the transportation of this coal, and having to endure enormous and regular losses from an inability to reconvey empty barges to the mines, a splendid quality of Kentucky coal has been mined and transported from Beattyville to Frankfort, a distance of about 200 miles, at a cost of 6 cents per bushel. Out of this cost must come the dead loss of each barge, which would account for one and a half cents of the expenditure. Mining has been conducted upon a small scale with limited facilities, but, notwithstanding there is not a pound of lift necessary, and that all the coal can be screened into barges without cost, the best mining operators have only been able to deliver coal on the barges at a cost of about 4 cents per bushel. This could be easily reduced to 3 cents, and with the river fully open to navigation the cost of transportation would be reduced more than half. A splendid quality of grate and cannel coal could be obtained about the Three Forks of the Kentucky, mined and transported to Louisville on barges at a cost of from four and a-half to six cents per bushel. The opening of this river would also give to the lower Ohio and Mississippi valleys a practically continuous supply of coal at all seasons. The principal obstructions to the delivery of coal from Pittsburgh are in the Ohio river above Cincinnati, and the government has never yet suggested a plan by which these obstructions could be removed or evaded. From Cincinnati southward navigation for coal fleets is secure for the greater period of the year. Between Louisville and Cincinnati it is virtually free during the twelve months. The Kentucky river could be made navigable twelve months of the year in ordinary seasons, and in years of such extraordinary drought as that of 1887, it could still be navigated for ten or eleven months of the year.

The coals that would be released to the South by the opening of this river are of

unusual excellence. The report of Prof. John R. Procter, director of the Kentucky geological survey, declares that north of Pine Mountain there are 1,650 feet of coal measures, containing nine beds of workable thickness, and between Pine and Cumberland mountains there is even a greater thickness of the coal measures containing twelve or more workable coals; that certainly one and possibly three of these are coking coals of great excellence; that in places two and sometimes three of the coals are found as cannel coals of remarkable richness and purity. "The facts brought to light," says Prof. Procter, "warrant the assertion that the largest known area of rich cannel coals is found in Eastern Kentucky, and that the largest known area of superior coking coal is found in the same section; that this coking coal is more advantageously located with reference to cheap and high grade iron ores than any other coking coal. Cannel coals are found in sixteen of the counties in the Eastern coal fields of Kentucky. Below are recent analyses of some of these cannel coals. (The value of cannel coal is usually determined by relative richness in volatile combustible matter):

Number in Reports.	Vol. Com. Matter.	Fixed Carbon.	Ash.	Sulphur.
2,578	Bell.	41.54	50.60	7.00
2,581	Bell.	51.60	40.40	7.00
2,641	Bell.	47.49	47.70	3.30
2,618	Breathitt.	53.80	39.46	5.54
2,619	Breathitt.	41.10	46.70	11.80
2,619	Breathitt.	43.22	44.94	7.54
2,599	Breathitt.	66.88	39.73	3.64
2,599	Morgan.	50.06	40.14	8.40
2,656	Clay.	44.16	43.74	11.80
2,703	Harlan.	43.64	46.48	9.32
2,717	Johnson.	50.29	40.74	7.60
2,719	Knott.	44.40	47.93	7.88
2,719	Leslie.	44.80	43.70	11.00
2,719	Perry.	44.80	37.60	16.80
2,811	Whitley.	40.56	51.24	6.70

\* Analyses by Prof. Thomas Egleston, of Columbia College School of Mines.

For purposes of comparison analyses from some of the most celebrated cannel coals are given:

	Vol. Com. Matter.	Fixed Carbon.	Ash.
Kirkless Hall, England	40.30	56.40	3.30
Boghead, Scotland	51.60	35.70	32.70
Lemahago, Cannel	49.60	41.30	9.10
Peytona, West Virginia	46.00	41.00	13.00

It will be seen that some of the Eastern Kentucky cannel coals excel the most celebrated coals of Great Britain. When the projected roads penetrate this region these cannel coals will find a market all over the country for domestic use and for the manufacture and the enriching of gas. They will also bear exportation for the same purposes."

With fuel treasures stored about the headwaters of the Kentucky river, sufficient to supply the whole world, almost, it seems inexcusable neglect in the government to delay the completion of needed improvement. It is a question of great importance to the whole South, and one to which the people of Kentucky would be glad to have the attention of Southern Representatives in Congress called by so excellent a champion of the South's progress and welfare as the MANUFACTURERS' RECORD.

An appropriation of \$1,000,000 at this session of Congress, to be followed by a similar provision next year would complete the improvements within three years and save millions of dollars to the South.

YOUNG E ALLISON.

GREENVILLE, S. C., and Knoxville, Tenn., are displaying remarkable enterprise in securing new railroads. Appreciating the necessity of abundant transportation facilities and of competing roads opening up all avenues of approach to the city, they not only advocate the building of roads, but they raise the money for them. Unlike many other places, they are not content simply to talk, but they act.

THE number of influential business men from the North who, after visiting the South, voluntarily tell of its solid progress and increasing prosperity, will soon silence the slanders of those who, for any reason, misrepresent it. Among the many gentlemen who have recently testified to the wondrous growth they have witnessed is Mr. James S. Lewis, a stirring business man of New York. To a member of the Tribune's staff he gave his views freely, who reported them as follows:

"There is no fever in my views of the South. It is the simple result of observation. If Horace Greeley was alive to-day he would say, 'Go South young man.' The secret of Southern growth is easily understood after a few visits. The war left the young men of that region impoverished almost to the verge of starvation. They became inured to privation. They learned what their fathers with big plantations and droves of slaves had never dreamed of learning. They learned to labor and save their earnings. They have become money-makers and money-savers. They know the value of wealth by the bitter experience of lack of it. They will earn and save a dollar where we at the North would spend five. The war left us up here in a state of stimulated prosperity. It left them on bare bones. They had to do or die. They decided to do and not to die."

In travelling through the South two parts have struck Mr. Lewis as having exceptionally strong points of advantage and future promise. One of these regions is Southwestern Virginia, beyond the Shenandoah valley, which has already developed into a wonderful country in the Clinch River valley and the country toward Tennessee. He describes it as being fertile, full of minerals, and capable of remarkable development by railroads which are now being built or projected there. It is, however, in talking of Tennessee and Alabama coal and iron fields that he becomes most enthusiastic. Said he: "Northern men who pooh pooh the iron manufacturing growth in this region ought to be classed with the old fogies. Why, I counted up in my own knowledge to-day the product of furnaces in these two States, in what is known as the Birmingham or Tennessee section, and found that it actually amounts to 1,400 or 1,500 tons daily. I took out my pencil and figured out the capacity of furnaces which I personally know to be in process of construction and sure to be finished this coming spring. The total was 1,800 tons daily. That is to say that this region will be producing this year over 3,000 tons of iron daily. Their only drawback is in lack of an ample supply of fuel. The opening of their mines has not kept pace with the building of their furnaces. That, however, is comparatively a small matter. The coal is there and they have only to get it out."

I asked Mr. Lewis why it was, if his rosy views were correct, that there was an inclination among some Northerners to discredit this field. He said: "There have been two phases of its development. One was the genuine honest toil that has really made the region to expand into a great industrial center. The other was speculation. The results of the former are what I have told you. I know about the other only what I have seen in the papers. It has been like most other things that Wall Street gets a chance to play football with. It got black eyes and sore shins. The speculators had various fortunes. But I can tell you that the region itself will not fly away. Let me show you how things move there. A year and a-half ago I saw the first stakes driven for the new town of Bessemer in Alabama. Late last fall I was there and found a place of 2,500 inhabitants, a daily paper, a blast furnace, and all the accommodations of busy city. This is the place in which Mr. Burke, of New Orleans, is interested. Let me tell you another thing. The enormous production of iron in this region will be almost all consumed there. Manufacturers are growing up in almost every city and town, and new enterprises are being promoted and courted to use up the product right on the ground. It is a wonderful development already, and it has only just begun."

# SHEFFIELD

COLBERT COUNTY, ALA.

## The Iron Manufacturing Center of the South.

BEING at the *head of navigation*, and on the *south bank* of the Tennessee river, Sheffield is the *natural outlet* for the mineral and manufacturing products of Alabama and neighboring States seeking a water route to points on the Ohio and Mississippi rivers, and to the Gulf of Mexico, as well as the best *distributing point* over Alabama, Eastern Mississippi and East Tennessee, South Carolina, Georgia and Florida for Northern and Western produce, groceries, provisions, machinery, &c. *Four railroads* certain, and several others assured. *Principal shops of Memphis & Charleston Railroad* will be erected here pursuant to written contract. These will employ between *four hundred and five hundred mechanics*, and consequently, with their families, will make an increase in population of at least two thousand people. Shops of three other railroads are contracted to be located here.

### Five Blast Furnaces Now Under Construction,

Of which one is nearly finished, and the remaining four contracted to completion next spring, have estimated capacity of 700 tons pig iron per day. This is 40 per cent. more than now manufactured at Birmingham, Alabama. Experts do not hesitate to say that *iron can be manufactured more cheaply* at Sheffield than at Birmingham, and its *river transportation facilities* will enable Sheffield iron to reach the principal markets at a saving of from

**\$2.00 TO \$2.50 PER TON.**

A first-class semi-weekly newspaper, printed by steam, is regularly issued. Furniture Factory, Bottling Works, Bakery, 3 Steam Brick Works, 2 Hand Brick Works, 2 Steam Wood-Working Establishments, Water Works, 2 Banks, a Savings Bank, and Steam Job Printing Office already in successful operation, and Iron Pipe Works, 15-ton Ice Machine and five story hotel, with all modern appliances, will be erected. The Cleveland Hotel, Park House and numerous boarding houses furnish accommodations to travelers. Postoffice, Telegraph Office and Express Office already established. Contracts have been made for the early erection of Electric Light Works, Paint Works, Agricultural Implement and Machine Works and Cotton Compress. Large Stove Works, Machine Shops, additional Iron Blast Furnaces, an extensive Charcoal and Chemical Plant, a large Rolling Mill and other manufacturing establishments under consideration, and will probably be built shortly.

Good Water. Free Public Schools and Churches. Health and Climate Unsurpassed.

*Drainage excellent. Splendid opening for men of push and energy. No "Old Fogey" element here.*

*No better point for profitable investment.*

## \*Sites for Manufacturing Enterprises,\* And for Free Public Schools and Churches

Donated by Sheffield Land, Iron & Coal Company.

Population January 1st, 1887, 700; now, (August 21st, 1887,) by actual count, 2,583. Increase of population, 800 per cent. in eight months, and only limited by accommodations.

*Three years ago* the site of Sheffield was cultivated as corn and cotton plantations, and was without a railroad. Numerous two and three-story brick business houses, and one and two-story dwellings have been, and are being erected. The class of buildings will compare favorably with those in cities of 20,000 inhabitants.

LIMESTONE of excellent quality for *fluxing iron* in unlimited quantities at the furnaces' sites. First-class building stone and brick clay abundant. Rich and extensive deposits of *brown hematite iron ore* within twenty miles, along the lines of two Sheffield railroads. The Sheffield & Birmingham Railroad runs through the heart of the *Warrior Coal Fields*, which abound in first-class *coking, steam, gas and grate coal*. Timber is abundant and cheap.

The *Memphis & Charleston Railroad* and the *Sheffield & Birmingham Railroad* are now in operation into Sheffield. The *Louisville & Nashville Railroad Co.* is now extending its *Nashville, Florence and Sheffield* division, which will be completed to Sheffield before the close of the year 1887. Surveys of three other railroads have been recently completed to Sheffield, which will soon be the *best combined river and railroad transportation center* in the South.

Every merchant and every established manufacturing enterprise is doing a profitable business. *More are needed.* For further information address

**ALFRED H. MOSES, Vice-Prest. and Manager**

**Sheffield Land, Iron & Coal Co., - Sheffield, Ala.**

# Tuscaloosa, Ala.

\* ALABAMA'S NATURAL PITTSBURGH. \*

## A Railroad and River Town of 6,000 Inhabitants, in the Coal, Iron and Timber District.

Healthful Location. Salubrious Climate. School Facilities Unequalled by any other town in the South. Centre of Education for the State. Seat of University of Alabama. Of State Insane Asylum. Of Alabama Central Female College. Hill's Female School. Fine Free School. Churches of all Denominations.

"EXAMINE THE MAP."

+ SITUATED ON +  
**Queen & Crescent**  
 — TRUNK LINE, —  
 IN THE  
**Warrior Coal Field**  
 AND ON THE  
**WARRIOR RIVER.**  
 Only Navigable River touching the  
**Alabama Mineral Field.**

Eight Months Navigation. Being Surveyed now to be opened all the year round.  
 All Water Navigation to

♦ MOBILE ♦  
 AND THE  
 Entire Gulf and Atlantic Coasts.

THE  
 —Tuscaloosa Northern Railroad—  
 Is now under construction into the  
 MINERAL and TIMBER FIELDS.

—THE—  
**Macon & Tuscaloosa Railroad**  
 Will soon be building into the  
 COTTON REGION OF MISSISSIPPI.

Fine Farming Region  
 Around and Below the City.

Manufacturers Seeking Locations in the South have here

## THE GOLDEN OPPORTUNITY.

Many have availed themselves of it, but such is the wonderful richness of the resources of this section that there is

• ROOM FOR ALL. •

## THE Tuscaloosa Coal, Iron & Land Co.,

Owning 4,600 acres of city and suburban property, and 40,000 acres of mineral and timber lands, offers liberal inducements to manufacturers to locate at Tuscaloosa, Nature's City, and invites correspondence and the fullest investigation of its claims.

An illustrated descriptive pamphlet sent free upon application to

**W. C. JEMISON,** President Tuscaloosa Coal, Iron & Land Co., **TUSCALOOSA, ALA.**

Superior Inducements  
 AND  
 + ADVANTAGES +  
 TO ALL  
 Manufactories Consuming  
**WOOD,** \*  
**IRON,**  
**COTTON.**

### FINE COOKING COAL

In workable veins near city, fully tested.

### ♦ The Fire Clay ♦

Existing in inexhaustible quantities, has been practically tested and pronounced

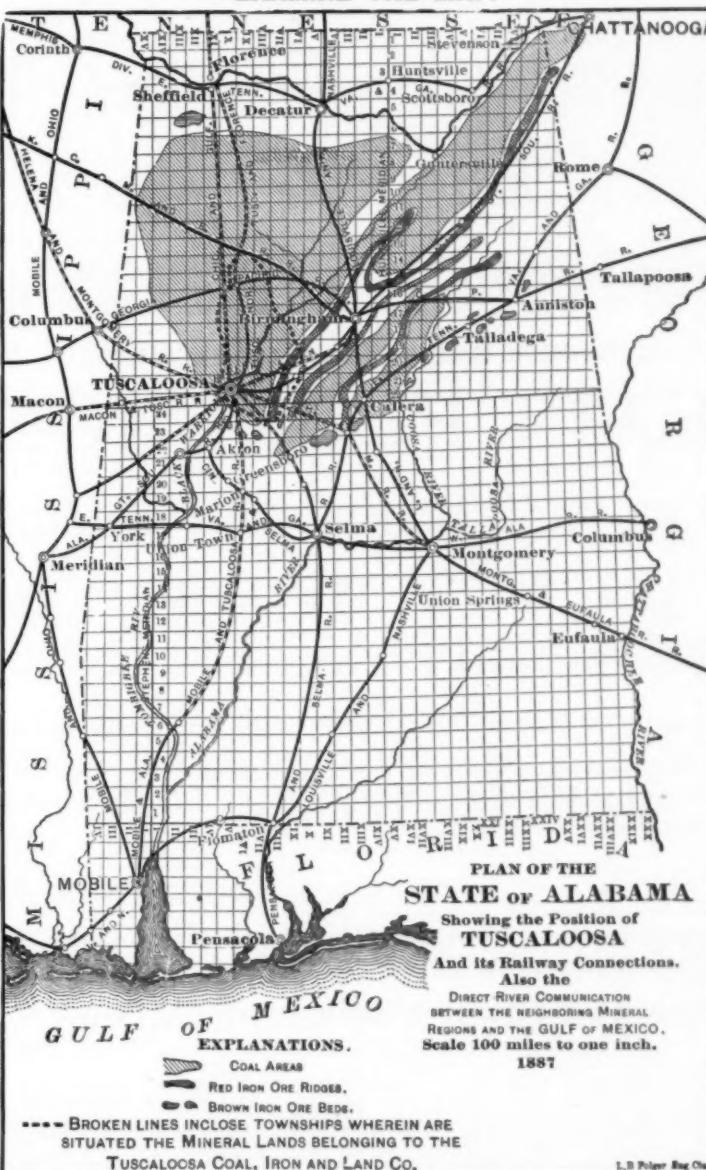
The Best yet Discovered in the South.

Street Car and Dummy Lines  
 NOW BUILDING.

♦ Water Works and Electric Lights ♦  
 TO BE PUT IN AT ONCE.

**COTTON MILL**  
 In Successful Operation.

ALSO  
**LARGE BRICK WORKS**  
 COTTON-SEED OIL MILL, &c.



# Florence, Ala.

## County Seat of Lauderdale County.

At Head of Navigation on Tennessee River, and at Foot of Muscle Shoals Canal,  
which will be open Jan. 1st, 1888.

SITUATED on a gently undulating Plateau, 200 feet above high-water mark, surrounded by three large creeks of pure free-stone water. It has a Court House, Two Colleges, Four Public Schools, Six Churches, beautiful wide streets, graded and graveled, and shaded with forest trees; Hotels, fine store houses, Masonic, Odd Fellows, K. of H. and L. of H. lodges. A population of 2,500—moral, social and hospitable.

— The Scenery on Every Side is Picturesque and Beautiful. —

SO MUCH SO THAT IT IS CALLED BY VISITORS

— FAIR FLORENCE.” —

There is no Place on the Continent more Healthful and Salubrious.

### • MANUFACTURES. •

Within the last six months numerous manufactures have been located here, among the number:

Five Large Blast Furnaces.	One Saw Mill,	One Cotton Mill,	Two Brick Machines and
One Rolling Mill,	One Flour Mill,	One Cotton Compress and Ice	Three Hand-Brick Yards.
Three Planing Mills,	One Wooden-Ware Factory.	Factory.	

There are VAST BEDS OF IRON ORE within a few miles North and  
IMMENSE COAL FIELDS SOUTH

ACCESSIBLE BY RAILROADS NOW BEING RAPIDLY CONSTRUCTED.

By the 1st of January the Nashville & Florence Railroad will be completed, making three lines of railroad, and the river, thus opening up VAST AREAS OF TIMBER, IRON ORE, COAL, Marble, Limestone, Kaolin, Fire-Clay, and almost every kind of mineral and product.

THE LANDS IN THE SURROUNDING COUNTRY ARE FERTILE AND PRODUCTIVE.

*All kinds of Grain, Grasses and Fruits grow to perfection. Springs and Water Courses are numerous, and grazing for Cattle is abundant for eight months of the year.*

Pamphlets and maps furnished on application to

# Florence Land, Mining & Manufacturing Company.

# GADSDEN, ALA.

Is situated on the West Bank of the COOSA RIVER, in the midst of the  
**RICHEST IRON AND TIMBER SECTION**  
 IN THE FAVORED STATE OF ALABAMA.

## → The Gadsden Land and Improvement Company ←

Own large tract of Eligibly Located Residence Property in the Most Desirable Part of the City, and have fine location on river and railroad for

### MANUFACTURING ESTABLISHMENTS,

And are offering great inducements to manufacturers to locate their plants in this **FAVORED LOCALITY**. No place in the South has such **Wonderful Advantages**. Situated in the midst of the **RICHEST IRON SECTION in the STATE**, at the foot of Lookout Mountain on the banks of a Navigable River, (**THE BEAUTIFUL COOSA**), surrounded by Forests of the Finest Timber on the Continent, with Fine Building and Fire Clay, and the **FINEST BUILDING STONE** all around us, with

**Uninterrupted Health, and the Purest and Best Water and Finest Drainage of any City in the State,**

**Gadsden should become the Greatest Manufacturing Center of Alabama.**

**T**HE Alabama Great Southern, Rome & Decatur, Tennessee & Coosa, Anniston & Cincinnati Railroads, with the ever-flowing Coosa navigable the year round, gives us as **FINE TRANSPORTATION FACILITIES** as any other city enjoys.

**We now have Railroad Car Works, Furnaces, Foundry and Machine Works, Saw Mills, Sash, Door and Blind Factory, Furniture Factory, Ice Factory, Paint Mills, Grist and Flouring Mills, Cotton Ginnery, Fine System of Water Works, Electric Lights, Telephone Communication over City, and also to neighboring cities Atlanta and Rome, Ga.**

**WE WANT** Rolling Mills, Bridge and Bolt Works, Cotton Factories, Woolen Mills, Furniture Factories, in fact all kinds of Factories, even Coffin Factories, (but we want to ship the Coffins to some of the other booming cities.)

Liberal Grants of Land will be made by THE GADSDEN LAND AND IMPROVEMENT CO. to any of the above-named industries.

FOR FURTHER PARTICULARS ADDRESS

**M. L. FOSTER, Sec. & Treas.**

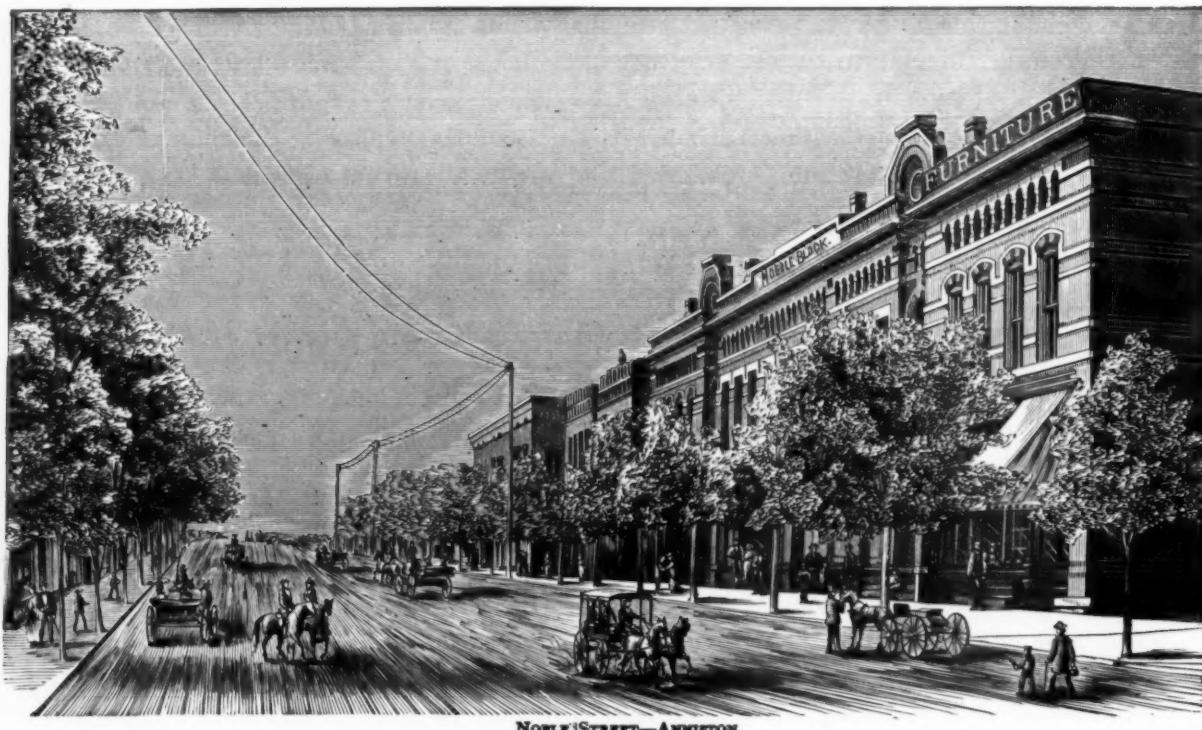
**THE GADSDEN LAND & IMPROVEMENT CO.** - - - **GADSDEN, ALA.**

**POST-OFFICE BOX 145.**

# ANNISTON, ALA.

## "The Model City of the South."

HERE is no healthier or more charming place of residence in America than Anniston; built on the slope of one of the highest of the chain of the Blue Ridge in Alabama, it commands scenery that is unapproachable in the State. Nature could not have formed a more beautiful place for man to build a city or given greater natural advantages. The natural drainage is most thorough and complete, while in addition the city is preparing a system of underground sewerage. *A more delightful and invigorating climate cannot be found anywhere: mild in winter, cool in summer, a thousand feet above the Gulf, with the high and broken chain, range after range in the east, Blue Mountain in the north, Coldwater Mountain in the southwest, make Anniston the coolest, healthiest and most attractive of any city in the South.* It has the richest agricultural country surrounding and tributary to it in the State, to support a manufacturing and mercantile population. The mountain sides will grow the grape and every kind of large and small fruit to perfection, and the valleys every product of diversified farming. *It is in the heart of the richest mineral district of the South, and commands the great fields of brown hematite ores on which the great and successful manufacture of iron must in the end depend for quality and profit in every branch of most skillful and best manufactures of iron and steel.* It has tributary to it the best and most extensive pine forests in North Alabama, that are reached by roads owned and controlled by Anniston citizens, while it has secured to its industries the very best coal mines and coking coal in Alabama. There is no city in America, in proportion to population, that has the manufactures of Anniston, or employs as many working men, or does a larger mercantile business. The industries already in full and profitable operation in Anniston are the **two Woodstock Furnaces** producing six hundred tons of Standard Car Wheel and Malleable Iron per week, and the **two Clifton Furnaces**, tributary to Anniston, producing nearly as much more. **The Car Works** are fully employed turning out forty cars per week, and are introducing new machinery and larger engines to increase their capacity to twenty cars per day. **The Rolling Mill and Car Wheel Foundry and Steam Forge** are among the largest in the South, of a capacity of two hundred wheels, a consumption of 120,000 pounds of metal per day, exclusive of the Rolling Mill and Steam Forge. These works are being enlarged to meet the increasing demands upon them. **The Cotton Factory** is one of the largest in the South, containing 11,700 spindles, and is running to its full capacity, while the foundry of **Murray & Stevenson, and machine shop of Pindar & Co., and planing mills of Miller & Smith and Farrar & Co.** employ a large number of men and are crowded with work. The new industries that are now under way and provided for will within the next twelve months **Add Four Thousand Additional Working Men to Anniston's Population**. Two of the **Largest Iron Furnaces in the South**, capable of producing two thousand tons of iron per week, are progressing rapidly, and one of the **Largest and most complete Pipe Foundries in the world for the production of Gas and Water Pipe** is under construction—it will employ nine hundred men.



NOBLE STREET—ANNISTON.

The Steel Bloomery, for the production of Steel Blooms, is nearly completed, and the new Fire-Brick Works of Taylor & Sons are in operation. The Ninety-Inch Morse Cotton Compress, with its warehouses, has been completed, and is receiving cotton. Forty thousand bales, it is estimated, will be secured to Anniston from the territory that its system of railroads have opened up. The completion of the Anniston & Cincinnati Railroad during the present year, that will be owned and controlled by Anniston's citizens, opens up new territory and forms a *New and Shorter Grand Trunk Line to Cincinnati and the great Northwest, and to the Southwest via New Orleans and Shreveport.*

It is only the profits of business and labor that can add to the wealth of a community, add to or maintain the value of real estate, and add to the prosperity of its people. Having this in view, every industry and business in Anniston is established on a *profitable basis*. All its merchants are doing a large and profitable business, far larger than they prepared for or anticipated; it is the same with the manufacturers, while *not a dollar of debt has been created*, either by issue of a bond or placing of a mortgage on any of its old or new industries, leaving their earnings free from fixed charges that must be paid in times of depression as well as of prosperity. *To the investor, either in business, manufacturing or real estate, nowhere else are presented opportunities as safe, secure and certain as at Anniston, or where they can rest on as healthy and solid foundation.* It has trunk line railroad communication with all parts of the United States, and freight rates with the most favored of Southern cities. Two lines of railroads are owned and controlled in the interest of Anniston by its own citizens. *It has the best system of Water Works*, with the purest well water from three hundred feet below the surface, drawn from white quartz sand and gravel, and distributed through the city, with a pressure of 100 pounds to the inch, from a reservoir always full, protecting the city against fire and giving it the lowest rate of insurance. *The city is practically free from debt, and taxation limited to one-half of one per cent.* The means for education are the very best. Public Schools of a high grade are provided. One of the finest and best institutes for Young Ladies has been opened, and a College for Boys and Young Men, to which a School of Technology and Chemical Assay Laboratory have been added, is now nearly completed, and the best of teachers and professors secured for both. There are *Churches for all denominations*, and *Hotel Accommodations that are not surpassed in Europe or America*. The ANNISTON INN provides the quiet and comfort of the most luxurious home. The streets are wide, macadamized, and rolled hard and smooth for pleasant drives. STREET CARS AND DUMMY LINES are being built to different parts of the city, and the ELECTRIC LIGHT service enlarged and improved, leaving nothing undone to promote the comfort of its citizens and maintain and increase the value of their property and profits of their business.

The Anniston City Land Company, or the Bureau of Information, will give any information desired when applied to, and invite all wishing a charming place in which to live, to do business or to make profitable investments, to visit

**ANNISTON.**

# CONSTRUCTION DEPARTMENT.

**H**E PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

## ALABAMA.

Alabama.—It is reported that the Mann Boudoir Parlor Car Co. contemplate building large machine and repair shops at some point in the South.

Anniston.—Skelton, McDaniels & Co., of Eulaton, reported last week as to build a saw mill, will probably have other machinery attached.

Anniston.—The Anniston & Atlantic Railroad Co. are considering making their railroad standard gauge and extending it about 50 miles to the mines of the Cahaba Coal Mining Co. at Blocton. Nothing will be done just at present.

Anniston.—The East Alabama Railroad Co. (office, Opelika) will soon commence locating the extension of their road from Roanoke to Anniston, previously reported.

Anniston.—D. L. Tope, of Tullahoma, Tenn., will start a steam laundry.

Anniston.—The American Wire Nail Co., of Covington, Ky., contemplate building a wire nail factory and will, it is reported, probably do so.

Anniston.—R. H. Cobb is making efforts to organize a stock company to build the hotel previously reported as contemplated by him. It will be three stories, 70x120 feet, and will cost about \$25,000.

Anniston.—Bids are being received for erecting the Methodist Church corner Fourteenth street and Leighton avenue, lately reported. Rev. C. L. Mann can give particulars.

Anniston.—The Methodists will build a church at Glen Addie to cost \$4,000.

Anniston.—Grace Episcopal Church will erect a \$2,000 chapel at Glen Addie and a stone church in North Anniston.

Anniston.—T. Gardner Foster, of Montgomery, states that he will soon begin work on the gas works previously reported.

Anniston.—It is rumored that H. M. Pierce, of Nashville, Tenn., will erect a charcoal furnace and chemical plant.

Autaugaville.—James Nunn and A. M. Smith are building a system of water works

Autaugaville.—James Nunn and A. M. Smith will probably form a stock company to put an old factory in operation.

Avondale.—The Smith & Sons Gin & Machine Co. will, it is stated, make other improvements to their factory in the early spring.

Bessemer.—H. F. De Bardeleben, Jacob G. Chamberlin, of Jasper; David Roberts, Charleston, S. C., and Henry B. Tompkins, of Atlanta, Ga., have incorporated the Sheffield & Bessemer Mining Co. to mine coal, iron ore and limestone and manufacture coke. The capital stock is \$200,000.

Bessemer.—John Sutcliff, of Birmingham, Ala., has prepared plans for a two-story brick building, 75x300 feet, to be erected for a syndicate by McCrossin Bros. & Thomas.

Bessemer.—It is probable that several manufactures will be started on the lands of the South Bessemer Land Co.

Birmingham.—Mr. Walters is prospecting with a view to starting a shirt factory.

Birmingham.—William T. Smith will build a residence to cost from \$20,000 to \$25,000.

Birmingham.—The East Birmingham Land Co. have contracted for 18 more houses at East Birmingham.

Birmingham.—A large woodworking factory is being erected by S. C. Johnston.

Birmingham.—The Alabama Mining & Manufacturing Co. own the stone quarries at Gate City lately mentioned as to have their output doubled.

Birmingham.—Smith Bros. will soon open an iron ore mine near the Alice furnaces, and a little later on he will open three others.

Calera.—W. E. Brinkerhoff contemplates starting the furniture factory at South Calera lately mentioned.

Childersburg.—A land and improvement company is being formed by O. M. Reynolds, Frank Nelson, Jr., of Columbiana, George Butler, John Owens and others.

Collinsville.—John M. Fall, of Collinsville, and N. J. Williford, of Gadsden, reported last week as to develop iron ore mines and build a short railroad to connect with the Alabama Great Southern Railroad, will be known as the Collinsville Mining & Manufacturing Co. W. H. Denson, Gadsden, is president.

Columbiana.—A street railroad is projected.

Decatur.—The Decatur Land, Improvement & Furnace Co. are negotiating for the erection of a cotton seed oil mill.

Decatur.—Chicago parties have contracted to erect gas works to cost probably \$200,000. The Decatur Land, Improvement & Furnace Co. can give particulars.

Decatur.—The Decatur Cornice & Roofing Co., previously reported, have commenced work on a brick factory.

Decatur.—P. M. Arnett has been prospecting with a view to start a shoe factory.

Florence.—Leftwich Bros. & Curtis will enlarge their lumber mill.

Guntersville.—The East Alabama Railroad Co. (office, Opelika) lately reported, will extend their road to Guntersville at once.

Guntersville.—The Wyeth City Co., capital stock \$100,000, has been organized with Edward A. Quintard, of New York, as president. John A. Lusk, T. B. Lusk; R. N. Bell and L. D. Lusk are interested in the company. The company owns about 1,000 acres of land, which they will improve.

Jacksonville.—The Jacksonville Land Co. are negotiating for the establishment of several manufactorys.

Leeds.—F. M. Nelms will start a saw mill and has purchased machinery.

Livingston.—A sash, door and blind factory and a stave factory are to be erected by L. M. Foulk, of Aurora, Ind.

Mobile.—It is reported that a shoe factory will be established by a Mr. Cook, from Michigan.

Montgomery.—The Court Street M. E. Church are raising money to build a new church.

Pratt Mines.—The Tennessee Coal, Iron & Railroad Co. have leased the State convicts and will increase the output of their mines from 3,200 to 4,500 tons daily, within six months. The company will build new school-houses.

Russellville.—The Isbell & Iron Mountain Railroad Co., previously reported, have organized with C. H. Castle, of Illinois, as president; J. P. Boyd, vice-president; W. H. Nance, secretary, and John E. Isbell, general manager. The road is to extend from

Isbell to a point 13 miles south from Russellville. Work will soon be commenced.

Seale.—W. J. Bickerstaff has leased a brick-yard, and will put in new machinery, which he wants to buy.

Selma.—The Commercial & Manufacturers' Progressive Union will be organized with a capital stock of \$50,000. Eugene Robbins can give information.

Selma.—A hotel is being erected on Alabama street. It will be known as the East End Hotel.

Sheffield.—The Sheffield Electric Light Co. will contract to light the city.

Stout's Mountain (Blount County).—A saw mill has been erected by Elias Kelton.

Talladega.—J. M. Sullivan and others, previously reported as developing a gold mine, will organize a \$25,000 stock company to further develop the mine. William Ashley will be secretary.

Troy.—W. S. Coleman is interested in the company previously reported as being formed to start a tannery.

Troy.—There is talk of a yarn factory and a carriage and wagon factory being started.

Warrior Station.—R. H. Pearson will build 100 coke ovens.

## ARKANSAS.

Beebe.—The Kansas City, Arkansas & New Orleans Railway Co., capital stock \$5,000,000, has been chartered to build a road from Beebe to Monroe, La., 200 miles, with a branch about 85 miles long. The directors are George M. Barbour, G. D. Foster and Edmund Lehman, of Beebe, and Adolph Cudell and Joseph Fleischman, of Chicago, Ill.

Clarksville.—E. T. McConnell is organizing a stock company to start a canning factory.

Corning.—Sheek, Stevens & Co. will next summer rebuild their mill and gin previously reported as burned.

Fordyce.—It is stated that a \$100,000 stock company has been organized to erect the cotton factory previously reported. G. M. Hampton is president.

Fort Smith.—Work has about been commenced on the bridge previously reported to be built across the Arkansas river by the Missouri Pacific Railroad Co. (office, St. Louis, Mo.)

Fort Smith.—The plans of J. W. Nier, of Kansas City, Mo., for the sewerage system previously reported has been accepted. The estimated cost is \$150,000. The mayor can give information.

Golden City.—The Arlington Mining Co. will purchase machinery to develop their mines.

Hico.—A company is being organized to start a canning and evaporating establishment.

Hot Springs.—The Arkansas Mining Co. will, it is stated, begin developing their property at once and arrange for the building of reduction works.

Little Rock.—The Little Rock & Alexandria Railroad Co. will shortly let contracts for the building of their road.

Little Rock.—About 100,000 acres of timber lands have recently been purchased by Michigan parties who will develop, build mills, &c.

Little Rock.—D. H. Thomas, previously reported as to build a new cotton press factory, has let the contract to Hedgepath & Covington. It will be 50x50 feet.

Little Rock.—William Mitchell will erect a three-story building to cost about \$6,000.

Little Rock.—Grant & Sherman will erect a two-story brick hotel for R. W. Dawson, to cost \$5,000.

Malvern.—The Methodists are preparing to build a brick church.

Ozark.—A \$10,000 college is to be built.

Paragould.—R. H. Hadley and C. M. Shepard, of Grand Rapids, Mich., will erect a shingle mill, 40x100 feet.

Paragould.—A stave factory is to be erected early in the spring by J. M. Briarham, of Terra Haute, Ind.

Pine Bluff.—An agricultural implement factory is reported to be erected.

Pine Bluff.—The Pine Bluff Water & Power Co. has been formed to succeed the Pine Bluff Water, Power & Light Co.

Pine Bluff.—The Pine Bluff, Monroe & New Orleans Railroad Co. have made a proposition to build their road to Monroe, La., and begin work within two weeks if a \$50,000 subscription is voted by Pine Bluff.

Polk County.—The Central Continental Gold & Silver Mining Co., previously reported, is, it is reported, preparing to erect a smelter.

Prairie Grove.—\$6,700 has been raised toward starting the canning and evaporating factory reported last week. Butler & Butler can give information.

## FLORIDA.

Bartow.—C. E. Reed & Bros. will erect a block of brick buildings.

Cedar Key.—A. F. Wolfe & Co. will enlarge their cedar mill.

Cedar Key.—There is talk of another cedar (saw) mill being erected.

Clay Springs.—The capacity of the orange wine factory is to be doubled.

Dade City.—John R. Johnson can probably give information in regard to the canning factory referred to last week.

Fairfield (P. O. Jacksonville).—The Fairfield Artificial Stone Co. has been formed by Carpenter & Babcock.

Florida.—The Latonia Ice Manufacturing Co. reported in this issue as incorporated at Covington, Ky., will operate in Florida. Their capital stock is \$25,000.

Jacksonville.—J. Matthews and associates contemplate erecting a shoe factory either at Jacksonville, Thomasville, Ga., or Brunswick, Ga.

Kissimmee.—S. R. Miller will start a small canning factory and wants to purchase machinery.

Palatka.—The St. Johns & Halifax Railroad Co. will commence grading for their road as soon as labor can be secured.

Palatka.—R. H. Gordon will erect a large three-story brick building.

Pensacola.—The name of the company recently mentioned as being formed to manufacture artificial stone is the Pensacola Stone & Building Co. The capital stock is \$20,000. A. L. Clapp, of Montgomery, Ala.; D. B. Rowas, Thomas Hannah, W. A. Blount and others are interested.

Quincy.—Gilmore & Davis have contracted to build 6 dwellings and 100 tenement houses for the Florida Tobacco Producing & Trading Co.

Sanford.—A two-story schoolhouse, 52x75 feet, is to be built at a cost of about \$10,000. The mayor can give information.

St. Andrew's Bay.—Surveys are being made for the canal to connect Lake Chipola with the East Bay, previously reported. A Northern company have made a proposition to build the canal for \$8,000.

St. Augustine.—John G. Long will erect a block of store buildings either brick or concrete, and R. H. Gordon will erect a large building.

St. Augustine.—Bryan & Turner have prepared plans for a \$5,000 residence to be built by M. C. Dixier.

St. Augustine.—Currende & Hastings have prepared plans for a new church and rectory to be built by the Episcopalians. Rev. E. L. Drouin can give information.

Tampa.—The Tampa Electric Light Co. will increase the capacity of their plant.

Tampa.—Lozanos, Pendos & Co. have moved their cigar factory from Key West to Tampa.

Tampa.—The county commissioners have decided to build a bridge over the Hillsborough river to cost \$25,000 and a jail to cost \$20,000.

Tallahassee.—The Tallahassee Gas & Electric Light Co. has been incorporated. William McIntosh, reported last week as securing the privilege to erect gas works and an electric light plant, is probably interested.

#### GEORGIA.

Albany.—A large warehouse is to be built by R. A. Hall.

Athens.—Edge, Dorsey & Co. talk of building a furniture factory.

Athens.—An ice factory is reported to be erected.

Athens.—A whisky distillery is to be started across the river from Athens.

Athens.—The Young Men's Christian Association have secured about \$9,000 towards erecting their building, previously reported.

Athens.—The Pioneer Paper Mill Co. are repairing and improving their mill, lately reported, and have purchased new wood pulp machinery.

Atlanta.—The Atlanta & West Point Railroad Co. contemplate paving the interior of the union depot with asphalt blocks at a cost of about \$5,000.

Atlanta.—The Atlanta Brewery, previously reported as to build an ice factory, have purchased machinery with a daily capacity of 50 tons.

Atlanta.—It is reported that the Michigan Stove Co., of Detroit, Mich., contemplate building stove works.

Atlanta.—G. T. Dodd, C. E. Boynton and others are forming a stock company to do a publishing business, etc.

Atlanta.—The Southern Spring Bed Co. contemplate erecting a saw mill, and want to purchase 50 horse-power engine, locomotive boiler and heavy saw mill.

Atlanta.—The Cumberland Valley & Unaka Railroad Co. has been incorporated in Georgia by William H. Case, George B. Corlan and Adolph Montanton.

Atlanta.—It is stated that James W. English, George W. Parrot, W. B. Lowe, William G. Herndon and others are organizing a company to build a railroad from the Chattahoochee river to Atlanta, about 7 miles. The cost is estimated at about \$30,000.

Atlanta.—The Central Railroad Co. contemplate building a large new union depot, but as yet have not decided on anything.

Augusta.—The Central Georgia Land & Improvement Co. has been incorporated by W. T. Gary, R. M. Mitchell, C. A. Evans and others.

Brunswick.—The Brunswick Co. will build a \$30,000 hotel on St. Simon's Island.

Brunswick.—Johnson, Gwinn & Co., reported last week as contemplating increasing the capacity of their grits mill, are now adding some flour mixing machinery and are building a large warehouse.

Brunswick.—J. Matthews and associates contemplate erecting a shoe factory either at Brunswick, Thomasville or Jacksonville, Fla.

Carrollton.—It is rumored that a cotton compress will be erected during the year.

Carrollton.—A planing mill has been erected by J. P. Miller.

Cartersville.—The Cartersville Furnace Co., capital stock \$50,000, has been chartered. John W. Akin can give information.

Cartersville.—John W. Akin and others have incorporated the Cartersville Land Co. to deal in and improve lands, build houses, etc., with privilege of building water, gas and electric light works. The capital stock is \$10,000, which may be increased to \$500,000.

Cartersville.—Charles M. Jones, J. D. Collins and J. E. McElroy have incorporated the Georgia Graphite Co. to develop graphite and other mineral lands, water-power property, etc. The capital stock is \$50,000.

Cedartown.—The Cherokee Lumber Co., of Dalton, have moved their saw mill to near Cedartown.

Cedartown.—Surveys are being made for the Ore Belt Railroad, previously reported.

Clarksville.—J. B. Jones has ordered machinery to start a shoe factory.

Columbus.—A site has been purchased by parties who will build a cotton mill. Their capital stock will be \$200,000.

Columbus.—Ernest Koennecker and partner are building a large brewery across the river from Columbus.

Columbus.—Trinity Church will erect a new church and rectory to cost probably \$40,000. Work will be commenced during the summer.

Columbus.—Tarver Bros. & Cummings have commenced work on their contract to build 23 miles of the Columbus Southern Railroad.

Columbus.—James Summersgill will build several brick store buildings.

Conyers.—S. A. Pearce will develop the granite quarries reported last week as sold by T. H. Bryans, Sr.

Coosa.—A planing and lath mill will be erected by Baldwin & Early.

Cuthbert.—The Randolph Cotton Factory has been sold to D. R. McWilliams and G. F. Barfield for \$10,000. The mill has 2,300 spindles.

Dalton.—The architectural iron works lately reported are being built by the Manly Manufacturing Co., of which R. P. Manly is president; T. W. Hamilton, secretary, and T. R. Jones, treasurer. Will manufacture bridge work, vaults, fencing, etc. W. B. Farrar has the contract to erect a building 64x128 feet.

Dalton.—W. R. Davis is putting additional machinery in his steam sausage factory.

Eatonont.—The city has decided to issue bonds to build school-houses. The mayor can give information.

Eatonont.—A large subscription, probably \$100,000, is being raised for the Atlanta, Atlantic & Sheffield Railroad.

Edgewood.—It is reported that the Methodists will build a \$10,000 church.

Gabbettsville.—A grist mill and gin will be erected by L. H. Taylor & Co.

Macon.—Beer bottling works have been started by J. Binswanger & Co.

Marietta.—The Marietta & North Georgia Railroad Co. have purchased 10,000 tons of 63 lb. steel rails.

Perry.—The Perry Manufacturing Co. will add to their factory a planer and several other machines. They contemplate starting a broom factory as soon as a broom maker can be engaged.

Rockmart.—The Atlanta Lime & Cement Co. will build two more kilns.

Rockmart.—There is talk of building a railroad from Tallapoosa to Rockmart.

Rockmart.—B. F. Whitehead is erecting machinery to grind cotton seed.

Rome.—It is stated the Rome Canning Co. will be organized with a capital stock of \$25,000.

Rome.—It is reported that a company will be organized in the spring to manufacture excelsior. Secretary Rome Land Co. can probably give information.

Rome.—\$35,000 has been subscribed towards building the iron furnace previously reported. J. W. Rounsville is interested in the furnace company.

Rome.—J. P. Manley and others are organizing a building and loan association.

Salt Springs.—J. C. James & Son, of Douglasville, have purchased machinery to erect a saw mill.

Savannah.—It is stated that financial arrangements have been made to build the large hotel previously reported. A committee has been appointed to purchase a site. H. M. Corner is interested and can give particulars.

Tallapoosa.—A planing mill is being built by Mr. Jackson.

Tallapoosa.—Willson & Patton have started the manufacture of tin and copper ware.

Tallapoosa.—Elijah Secord will build a small sanitarium.

Thomasville.—It is reported that a company is being organized to manufacture furniture.

Toombsboro.—It is rumored that a hotel will be built.

Tunnel Hill.—Anderson, Wylie & Co. are opening manganese iron ore mines.

Waycross.—It is rumored that W. H. Whitehead, of Savannah, will start a medicine factory.

Winterville.—James M. Smith, reported last week as to build a railroad from his farm to a point on the Georgia Railroad near Winterville, has, with R. A. Smith, James D. Power, W. W. Charlton, J. T. Smith, J. R. Patten and Daniel W. Meadows, incorporated the Pleasant Hill & Winterville Railroad Co., capital stock \$150,000. The road will be about 10 miles long.

#### KENTUCKY.

Ashland.—A New York party has made a proposition to build water works. The mayor can give information.

Bowling Green.—The Sumner Glass Co., of Stuebenville, O., are considering a proposition to remove their glass works to Bowling Green.

Brooksville.—A company is reported as being formed to bore for natural gas.

Covington.—The Latonia Ice Manufacturing Co., capital stock \$25,000, has been chartered by R. W. Dugan, William S. Keefer, George M. Keefer and Charles Shinkle. The company will manufacture ice and pack and ship fish in Florida. The principal office will be at Covington.

Covington.—Efforts are being made to organize a stock company to build a large hotel. O. J. Wiggins can give information.

Covington.—The Crawford Mill & Lumber Co., capital stock \$10,000, has been incorporated to manufacture and deal in lumber by George Crawford, Frank Puttman and John Hanks.

Covington.—The Economic Light & Fuel Co., reported last week as chartered to manufacture gas from wood and other substances, are preparing to erect plants.

Frankfort.—Bills have been introduced in the legislature to incorporate the Pineville Street Railway Co. (Pineville); the Southern Street Railway Co. (Louisville), with an authorized capital stock of \$1,500,000, and David Grantz, Jr., M. K. Allen, William Ayers and others as corporators; the Pittsburgh, Kentucky & Nashville Railroad Co., and the Mt. Sterling Street Railroad Co.

Hopkinsville.—The Hopkinsville Gas & Oil Co. have secured the privilege to lay pipes for supplying natural gas. They will lay pipes as soon as gas is found in sufficient quantities.

Lexington.—The capacity of the Kentucky Steam Laundry has lately been doubled.

Lexington.—W. N. Baswell will spend about \$10,000 in remodeling his hotel.

Lexington.—The Lexington Gas Co. will not enlarge their plant, as stated last week, but will probably extend their mains in the spring.

Louisville.—The Louisville Asphalt Varnish Co. and the Falls City Varnish Co. have been consolidated as the Collins Varnish Co., with a capital stock of \$100,000. Lewis Collins is president.

Louisville.—It is stated that the Louisville Electric Light Co. will probably enlarge their plant.

Louisville.—A company is being formed to manufacture a tie patented by A. H. Perry. The secretary Chamber of Commerce can give information.

Louisville.—The Beattyville Mineral & Timber Co., capital stock \$500,000, has been organized by J. T. Gathwright, R. T. Coleman, Charles Warren, Atilla Cox, Thomas James, J. M. Clarke and others. They have purchased 6,000 acres of coal and timber lands near Beattyville.

Marion.—The Princeton, Marion & Ohio River Railroad Co., R. W. Wilson, president, are locating their road, which will extend from Marion to a point on the Ohio river opposite Elizabethtown, Ill., about 16 miles, and will be ready to let contracts about February.

Mayfield.—The new courthouse reported last week as to be built by Graves county will cost about \$50,000.

Maysville.—R. A. Cochran, Horace January, A. J. Grundy, Andrew M. January and B. N. Wood have incorporated the January & Wood Co., capital stock \$200,000, to operate the Maysville Cotton Mills. B. W. Wood, of Louisville, is president.

Owensboro.—R. S. Triplett G. W. Williams, S. T. Walden, S. M. Dean and others are interested in the company lately reported as being formed to purchase mineral lands along the proposed Owensboro, Falls of Rough & Green River Railroad. They will also purchase timber and coal lands.

White Station.—William Cochran has purchased the White Flour Mill for \$4,025.

Williamsburg.—The Kentucky Lumber Co. have purchased the lumber mill, &c., of J. P. Allen & Co.

#### LOUISIANA.

Mt. Lebanon.—A college is to be built. Rev. W. M. Reese can give particulars.

New Orleans.—The Louisiana Electric Light & Power Co. have purchased and will erect electric light machinery at the Charity Hospital.

New Orleans.—D. L. Mitchell & Co. are negotiating for a site for car works which a Northern company contemplate erecting in the South. The works, if built, will employ from 600 to 800 hands.

New Orleans.—Larendon & Allen will, it is said, rebuild their large rice mill, reported last week as burned.

Shreveport.—The building of a cotton factory is again being agitated.

#### MARYLAND.

Baltimore.—Joseph M. Cone will build 5 three-story houses on Fremont street, near Lanvale.

Baltimore.—Robert R. Zell, Robert F. Burton, Robert R. Graf, Howard Mannikhuysen, Henry S. Zell, Charles E. Savage and others have incorporated the Graf Refrigerating Co. to manufacture refrigerating machinery for cold storage. The capital stock is \$250,000.

Baltimore.—The contract to erect the school building on Saratoga street, previously reported, has been let to Charles Dunn, 117 East Centre street, at \$22,875. It is to be completed by September 1.

Baltimore.—The Strong Locomotive Works, of New York, are negotiating for building locomotive works at Sparrow's Point, near Baltimore, near the furnaces being erected by the Pennsylvania Steel Co., of Steelton, Pa.

Baltimore.—The Methodist Protestant Church Extension Society will build a chapel. Rev. W. M. Stayer can give particulars.

Baltimore.—Philip Walsh & Sons have received the contract to enlarge the St. Ann's Church on the York road at a cost of \$14,000.

Baltimore.—William H. Wehn will erect 3 three-story houses on Lexington street, beginning at Mount street, and 4 three-story houses on Mount street, near Lexington.

Baltimore.—Charles K. Harrison, Frank Della Torre, Richard H. Norris and Skip with Wilmer, of Baltimore, and John T. Haxall, of Richmond, Va., have chartered the Rapid Stopper Co., capital stock \$5,000, to manufacture stopper fasteners.

Baltimore.—Emanuel Greenbaum will erect a four-story brick warehouse corner of Lexington and Park streets.

Baltimore.—A site has been purchased corner of Broadway and Chew streets to erect a branch of the Enoch Pratt Free Library. The contract for the building will soon be let.

Cambridge.—The Board of Trade have appointed a committee, with John G. Mills as chairman, to arrange for the building of water works. A stock company will probably be formed.

Centreville.—A stock company is being organized to rebuild the flour mill of J. Hersey Hall, previously reported as burned. The cost of the mill will be about \$16,000, and the daily capacity will be about 40 barrels.

Chestertown.—A large canning factory is to be erected. William D. Burchinal will be manager.

Frederick.—William H. Karicofe, of Martinsburg, W. Va., is making efforts to organize a \$100,000 stock company to manufacture corn harvesters and other agricultural implements.

Frederick.—William McCullum, of Cincinnati, O., lately reported as to start a manufactory, is organizing a stock company to manufacture or have manufactured wire fencing, fencing tools, &c.

Hagerstown.—It is stated that a company is being formed to erect the electric light plant reported last week. If true, M. L. Funkhouser can give information.

Port Deposit.—There are prospects of an iron foundry being erected.

Woodberry.—The Druid Mills Manufacturing Co. will probably erect at their cotton mills machinery for manufacturing gas by a new process.

Washington, D. C.—N. T. Haller will erect four buildings on H street northwest to cost \$10,000.

Washington, D. C.—The Smith Transparent Ice Manufacturing Co. have lately put in some new machinery.

Washington, D. C.—The Nealy-Hare Torpedo Co. has been incorporated under the West Virginia laws by George H. B. White, W. B. Webb, Charles Pomeroy, John M. Corson, John L. Wolf and others. The capital stock authorized is \$2,000,000.

Washington, D. C.—Bills have been introduced in Congress to incorporate the Capital Rapid Transit Co.; the Washington & Suitland Street Railroad Co., to build the railroad from Eleventh street and Pennsylvania avenue to Suitland, reported last week; the Washington Suburban Railway Co.; the Atlantic Trust and Deposit Co., with A. D. Britton, A. A. Thomas and others as corporators, and a capital stock of not more than \$2,000,000, and the Central Cable Railway Co.

#### MISSISSIPPI.

Greenville.—Isadore Hexter, Jacob Wilczinski, T. Isenberg and Lee Hexter have incorporated the Greenville Ice & Coal Co., capital stock \$50,000. They have purchased the plant of the Greenville Ice Manufacturing Co., and have ordered new machinery of twenty tons capacity.

Greenville.—G. G. Sims, Jacob Scott, W. E. Hunt and James Robertshaw have incorporated the Greenville Brick & Improvement Co., capital stock \$50,000. The company will operate and probably enlarge the brick works of Scott & Sims.

Jackson.—A bill has been introduced in the legislature to incorporate the Yazoo Delta Central Railway Co.

Mississippi.—A town is to be started on the line of the Kansas City, Memphis & Birmingham Railroad (office Birmingham, Ala.) to be called Nettleton.

Vicksburg.—The Vicksburg Printing & Publishing Co., whose printing office and bindery are reported in this issue as burned, will rebuild.

Vicksburg.—Mulholland Bros. are preparing to rebuild their spoke factory and ginnery lately reported as burned. They will probably increase their capacity.

#### NORTH CAROLINA.

Asheboro.—There is talk of building a cotton factory. Michael Bradshaw can probably give information as soon as anything is done.

Ashe County.—It is stated that operations will soon be resumed at the Rich Knob copper and gold mine.

Asheville.—It is reported that the sand paper factory referred to last week will be started at Asheville. W. H. Inloes can probably give particulars when anything is done.

Asheville.—It is stated that the French syndicate, reported last week as contemplating establishing porcelain works, will have a capital of \$500,000. W. H. Inloes can probably give information.

Asheville.—W. W. Denning, late of Michigan, will start the sash, door and blind factory, reported last week. He is purchasing timber.

Asheville.—Mr. Farenhoit will begin work on his street railroad, previously reported, in March.

Burke County.—Operations will probably be resumed at the Baker gold mine.

Charlotte.—Elliott & Marsh contemplate organizing a stock company to enlarge and operate their furniture factory.

Charlotte.—A. Y. Sigmon will increase the capacity of his flour mill. Has purchased a new 50 horse-power engine and boiler.

Cherokee.—J. L. McLeymore contemplates erecting a small saw mill and wants to purchase machinery.

Cleveland Mills.—The Cleveland Cotton Mills Co., lately reported as to build a 3,000-spindle mill to manufacture carpet warps and twines, are purchasing machinery.

Durham.—The Richmond & Danville Railroad Co. (office, Richmond, Va.) will build from Durham to Clarksville.

Fayetteville.—E. G. Styron & Co. have doubled the capacity of their roller flour mill.

Greensboro.—J. C. Lindley & Bros. have purchased timber lands in Western North Carolina, and will develop as soon as shipping facilities are convenient for easy handling.

Greensboro.—P. A. Adams will build an opera house.

Hendersonville.—It has been decided by a popular vote to issue \$20,000 of bonds to build the water works previously reported.

Kernersville.—Huff & Stewart have erected shops to manufacture buggies and carriages.

Monroe.—A meeting has been held to form a company to build a cotton factory. Walter J. Boylin can probably give information.

Oxford.—The Kimball Cigarette Co., of Rochester, N. Y., will establish the stemery previously reported.

Oxford.—J. F. Rogers will probably erect a tobacco prize factory.

Raleigh.—Parties interested in the Raleigh Gas Co. have incorporated the Raleigh Lighting, Heating & Power Co., capital stock \$25,000. Will at once, it is stated, erect an electric light plant.

Raleigh.—Negotiations are being made for the erection of a large auditorium capable of seating about 7,000 persons.

Raleigh.—Bids for building a church and bids for building a lecture room will be received until February 1st by S. M. Parish.

Raleigh.—Reid & McGee have leased the brick warehouse of W. C. & A. B. Stronach and are fitting it up as a tobacco prize factory.

Raleigh.—It is reported that the Knights of Labor Tobacco Co. will build a new factory.

Reidsville.—Negotiations are being made for the erection of an electric light plant.

Reidsville.—A broom factory is reported to be established.

Salisbury.—D. M. Miller will start a brick-yard early in the spring.

Salisbury.—D. M. Miller contemplates starting a brick-yard and wants to purchase a 20 horse-power boiler and engine and a brick machine with a daily capacity of from 20 M to 25 M bricks.

Salisbury.—It is reported that parties will take hold of and test the Tripler Mine.

Shelby.—Miller, Blanton & Oates are adding a warp room, 30x50 feet, to their cotton mill.

Shelby.—Morgan, Cline & Co. are purchasing machinery for their Shelby Cotton Mills, previously reported.

Shelby.—S. D. Dunavant, of Knoxville, Tenn., has recently contracted to build 8½ miles of the Charleston, Cincinnati & Chicago Railroad between Shelby and Cranberry.

Swann's Station.—Kaolin lands will probably be developed.

Waynesville.—The Waynesville News Co. has been formed.

Winston.—The courthouse is to be improved at a cost of about \$6,000. John Fries can give particulars.

#### SOUTH CAROLINA.

Aiken.—A. J. Twigg will complete his pulp mill, previously reported, about February 1.

Aiken.—The Aiken Mining & Porcelain Manufacturing Co. contemplate starting the manufacture of barrels, and want to purchase machinery.

Aiken.—F. Rhem & Son have purchased a saw mill and will re-erect it on the Black river.

Aiken.—A saw mill is being erected by Ehrich & Twigg.

Beech Island.—George Mills has shipped some sand to be tested as to its worth for glass making. If satisfactory, he will mine and ship sand extensively.

Columbia.—Frank Niernsee is preparing drawings for a chapel and church to be built by the St. Paul's Lutheran Church. The cost will be about \$40,000.

Greenville.—The Board of Trustees are looking for suitable sites for the school buildings previously reported as to be built. The \$18,000 of bonds will be issued by February 1.

Salley.—The Imperial Kaolin Co., capital stock \$150,000, will be incorporated to develop the kaolin mines previously reported. George A. Wagener, of Charleston, will probably be president. The company control about 2,000 acres of kaolin lands.

Summerville.—Arrangements are being made to build a hotel to cost about \$10,000. W. R. Dehon can give information.

#### TENNESSEE.

Arlington.—Frank Gaines has purchased a saw mill which has been idle for some time and will put it in operation.

Arlington.—A saw mill has been erected by Cooper & Bodman.

Bolivar.—Some new machinery has been put in the Bulletin printing establishment.

Bristol.—W. M. Dutton, of Gray, N. Y., has been prospecting with a view to building a large tannery. He will probably decide to build.

Bristol.—Barker & Reynolds will build a large hotel to cost about \$100,000. Plans have been prepared by A. J. Armstrong, of Birmingham, Ala.

Chattanooga.—It is reported that the Willingham Lumber Co. will soon begin work on the split pulley factory previously reported.

Chattanooga.—The Chattanooga River Brick Co. (Moore & Shannon) will increase the capacity of their brick works to 100,000 per day and are purchasing necessary machinery.

Chattanooga.—The Chattanooga Hospital Association will probably erect buildings.

Chattanooga.—F. H. Foster, previously reported as negotiating for the removal of his builders' hardware factory to Chattanooga, has, with C. E. James, John A. Hart, R. C. Hutchinson, F. J. Bennett and others incorporated the F. H. Foster Manufacturing Co., capital stock \$250,000. Will probably soon begin work on buildings.

Chattanooga.—S. W. Divine, C. W. Brown and others are making efforts to have a street railroad built through Highland Park.

Chattanooga.—Temple & Shipp will, it is said, enlarge their furniture factory.

Chattanooga.—There is some talk of the Roane Iron Co. doubling the capacity of their steel plant.

Chattanooga.—It is stated that the Blowing Springs Land Co. contemplate building a fine hotel.

Chattanooga.—Work on the United States custom-house will be commenced about February 1. J. R. Ryan can give information.

Chattanooga.—Thomas Sully & Co. are preparing plans for the large seven-story building previously reported to be erected corner Market and Seventh streets.

Cleveland.—The Thompson-Houston Electric Light Co., H. H. Corson, agent, will put in the plant referred to last week.

Covington.—The corporators of the Covington Industrial Manufacturing Co., lately reported as being organized to start a hub and spoke and other factories, are W. N. White, L. Hill, Jr., R. H. Green, E. W. Smith, Charles H. Myers, W. H. Russell and others. The capital stock is \$100,000.

Dandridge.—It is rumored that a woollen mill will be established.

Darwin.—It is reported that a coal mine is being developed by S. L. Wilkey.

Detroit.—A 20 horse-power saw mill has been erected by J. C. Vaughn & Co.

Dyer County.—C. C. Mengel, Jr. & Bro., of Louisville, Ky., have purchased timber lands.

Elizabethton.—W. B. Carter has recently purchased some new machinery for his mill.

Fayetteville.—The flour mill of Bearden, Thomas & Shoftner is being remodeled to the roller system.

Gordonsville.—Shaffer, Coffey & Co., of St. Louis, Mo., have contracted to build part of the Nashville & Knoxville Railroad.

Humboldt.—It is probable that a stock company will be organized to erect the cotton compress and warehouse referred to last week. J. R. Phillips & Co. can give information as soon as anything is done.

Knoxville.—The Brookside Cotton Mills will increase their capacity about 50 per cent and add a dye-house, warehouse, machine shop, &c. The mill will then have 12,000 spindles and 425 looms.

Knoxville.—Charles Heath has been prospecting with a view to establishing brick works.

## MANUFACTURERS' RECORD.

Knoxville.—The Knoxville Cigar Co. will increase the capacity of their factory.

Knoxville.—The county court has appropriated \$2,300 to build two bridges.

Knoxville.—The Edes, Mixer & Heald Zinc Co. will erect two more furnaces during this year.

Knoxville.—The fire-alarm system lately referred to will be put in. The mayor can give information.

Knoxville.—The name of the company reported last week as formed by parties interested in the Unaka Land & Timber Co., is the Unaka Iron Co., with principal office at Grand Rapids, Mich. H. B. Wetzel, Knoxville, is secretary. The company are opening magnetic iron ore mines near Warm Springs, N. C. Their capital stock is \$25,000, which will be increased when necessary.

Maryville.—A. J. Nebb is corresponding with parties who will probably erect a hub and spoke factory and a wire nail factory.

Maryville.—William H. Henry will erect the pork-packing establishment reported last week.

McMinnville.—Thomas H. Eastwood has purchased the McMinnville Foundry & Machine Works, which have been idle for about two or three years, and will put them in operation.

Memphis.—C. G. Rosenplaenter has prepared plans for the school building lately reported to be erected on Jefferson street. It will be four stories, 95x95 feet.

Memphis.—The Tennessee Manufacturing Co. has been chartered by J. L. Mallon, J. F. Dowdy, Jr., E. A. Morrison, J. H. Trout and P. J. Quigley.

Morristown.—The Morristown Medicine Co., capital stock \$25,000, has been formed to manufacture patent medicines. W. A. Jones can give information.

Morristown.—The ice factory lately reported as projected will be built during the spring. H. H. Rice can give information as soon as details are arranged.

Mossy Creek.—A company with a capital stock of \$15,000 has been organized to manufacture woolen yarns. W. S. Sizer can give information.

Nashville.—Lieberman, Loverman & O'Brien have lately purchased a new 160 horse-power engine for their lumber mill.

Nashville.—The Board of Public Works contemplate building an engine house to cost \$6,000.

Rockwood.—J. F. Tarwater is developing an iron ore mine and will want machinery soon.

Rockwood.—A church is to be built by the Presbyterians.

Shelbyville.—A hub and spoke factory has been leased and will be put in operation by a Northern party.

Sweetwater.—J. S. Bonham will bore for natural gas and oil.

Sweetwater.—The Sweetwater Mills Co. have put some new machinery in their flour mill.

Tipton.—D. A. Merrell is rebuilding his burned saw mill.

Tullahoma.—J. L. Collins will start a steam laundry and wants prices on both hand and power machinery.

Tullahoma.—A tannery has been erected by W. H. Fry.

Viola.—A cheese factory is to be started. E. L. Snider, McMinnville, can give information.

Winchester.—\$5,000 has been subscribed towards establishing an ice factory. J. L. Girton can probably give information.

## TEXAS.

Abilene.—The Chicago, Rock Island & Pacific Railroad Co. (office, Chicago) will at once make surveys for the extension of their road from Wichita Falls to Abilene.

Austin.—There is talk of damming the Colorado river and building a canal to fur-

nish water-power for manufacturers. The estimated cost is \$500,000.

Bexar.—The Bexar Brick & Tile Co. has been chartered.

Brownwood.—Mr. Cling, representing the Pennsylvania syndicate that leased several thousand acres of oil lands, will soon begin sinking wells.

Bryan.—The Central Publishing Co., capital stock \$10,000, has been incorporated by J. D. Dawson, R. M. Smith, J. H. Admire, W. L. Turner and O. B. Huckabee.

Cisco.—T. R. Blake has purchased the gin of Bacon & Clegg, and will add a corn mill at once, and a flour mill in time for the next crop.

Columbus.—H. M. Ahrenworth, J. H. Johnson, John R. Hester, F. Simpson, W. E. Bridge, John Rees, R. L. Foard and others will incorporate the Columbus Water-Power & Manufacturing Co., capital stock \$250,000, to build the canal previously reported.

Dallas.—The contract to build the city hall, previously reported, has been let to Byrne & Co. at \$75,000.

Dallas.—The Farmers' Alliance has raised \$15,000 towards forming a company to build a flour mill to cost \$45,000.

Dallas.—The Tabor Bros. Jewelry Co., capital stock \$25,000, has been incorporated by John C. B. Tabor, Simpson H. Tabor and N. A. Bolles. Will probably manufacture jewelry.

Dallas.—The Christian Courier Publishing Co., capital stock \$25,000, has been chartered by J. T. Elliott and others.

Denison.—The Denison & Sherman Railway Co. has been chartered to build a railroad from Denison via Sherman to Abilene by W. B. Munson, J. T. Munson, A. R. Collins, J. M. Fero, of Kansas City, Mo., E. Perry, E. H. Ling and others. The capital stock is \$100,000.

Denison.—A \$200,000 building and loan association has been organized.

Denison.—Work is being resumed on the Denison, Bonham & New Orleans Railroad.

Denison.—The Denison & Washita Valley Railroad Co. have increased their capital stock to \$2,000,000, and have decided to issue about \$15,000 of bonds per mile of road. They are having their coal lands developed.

El Paso.—S. W. Russell, A. W. Loomis and others have asked for permit to build a street railroad. If granted they will commence work within ninety days.

El Paso.—The city council have accepted the plans of Kneezel & Vermehren for the city hall previously reported.

Flatonia.—A tannery has been started by D. Braddock & Co.

Fort Worth.—George L. Gause has commenced work on his stable and undertaking establishment previously reported. It will be two stories, 100x100 feet, and cost about \$40,000.

Fort Worth.—Daniel Milan and J. J. Kane will each erect a brick building to cost \$6,000.

Fort Worth.—L. Randall will erect a three-story brick building, 50x100 feet, to cost \$22,000, and Mr. Yates will erect a brick building 25x100 feet.

Fort Worth.—A three-story brick building 75x200 feet will be erected by Heck & Baker.

Fort Worth.—R. E. Maddox, reported last week as to erect several large buildings, has prepared plans and specifications for a four-story brick and iron hotel 100x100 feet. It will cost about \$38,000.

Fort Worth.—Thomas Roche will erect a two-story brick building 50x100 feet, to cost \$8,000.

Fort Worth.—The Fort Worth & Western Railroad Co. have purchased some coal lands and will develop during the year.

Fort Worth.—W. H. Wright is erecting a wool scouring establishment.

Fort Worth.—The flour mill reported last week as to be built by William Cameron, of Waco, will be erected by Cameron & Tatum. The daily capacity will be 400 barrels of flour and 100 bushels of meal. They will also build an elevator with a capacity of 100 bushels. About \$175,000 will be invested in the plant.

Fort Worth.—John Tierney, previously reported as to erect a three-story brick building, has prepared plans. It will be 50x100 feet, and will cost about \$18,000.

Galveston.—N. J. Clayton, architect, has prepared plans for two residences to cost \$32,000.

Galveston.—The Neptune Ice Works will be improved.

Galveston.—Fosgard, Waters & Co. will enlarge their factory.

Georgetown.—There is talk of building a street railroad. J. E. Cooper can give information if anything is done.

Georgetown.—The Commissioners' Court will receive bids for building a limestone jail. The estimated cost is \$30,000.

Graysville.—The Fox Coal & Coke Co. will, it is said, build a number of coke ovens.

Houston.—The Houston Water Works Co. have let the contract for sinking an artesian well to Jonathan Harris. If a success nine more will be sunk.

Huntsville.—The Walker county courthouse, reported in this issue as burned, will be rebuilt at once.

Laredo.—The Laredo Electric Light Co., capital stock \$50,000, has been chartered with George Sackett, E. M. Johnson and John M. Clark as directors.

Linden.—The Jefferson Lumber Co., of Jefferson, are extending their tram railroad to Linden.

Malakoff.—Pottery and brick works are being agitated. C. E. Waldrum can give information when anything is done.

Marble Falls.—The Marble Falls Co-operative Manufacturing Alliance, capital stock \$500,000, has been incorporated to manufacture cotton, wool, jute, ramie, &c.; erect factories of various kinds, &c. The company will build the factories previously reported to be erected. The directors are J. A. Ransdell, F. J. Hundley, J. L. Savage, J. D. Morton and J. D. Chamberlain.

Marshall.—A stock company is being organized to build a large hotel on Washington avenue. The mayor can probably give information.

McGregor.—Benjamin Lee has received the contract to erect a school building to cost \$9,000, and will commence work at once.

Paris.—T. H. Hays, J. Z. Collins, T. M. Reed, S. Moody and others have incorporated the North Texas Farmers' Publishing Co., capital stock \$2,000.

Paris.—The Paris & Great Northern Railroad is to be extended to the Houston & Texas Central Railroad at Roberts.

San Antonio.—The Street Railroad Co. will soon begin work on their hotel and cottages previously reported. They will spend probably \$200,000 in improvements.

San Antonio.—The Methodists contemplate building a \$10,000 college.

San Antonio.—The contract for the construction of the foundation for the United States government building, previously reported, has been let to D. C. Anderson.

San Antonio.—Dix Niggle, Thomas Dignowity and Mr. Ogden, of San Antonio, Mr. Irons, of Boerne, and Mr. Shriever, of Kerrville, have organized a company to develop a coal mine near San Antonio.

San Marcos.—Code & Steel will enlarge their ice factory.

Texarkana.—The Texarkana Gas Co., previously reported, have organized with William L. Whitaker as president, Z. D. Cook, vice-president, and P. L. Montidonic, secretary and treasurer. Will purchase machinery for plant at once.

Waco.—A paper mill is being agitated.

## VIRGINIA.

Allisonia.—The Harris Ferris property is to be developed soon.

Black Lick.—W. P. Hughes has lately purchased some mill machinery.

Columbia Furnace.—The property of the Columbia-Liberty Iron Co., including two furnaces, has been sold to George W. Pierson, of Philadelphia, Pa., for \$51,000.

Danville.—A stock company is being organized to start a large cigarette factory. T. J. Talbot can probably give information.

Danville.—Arnett, Snellings & Co. are putting additional machinery in their tobacco factory.

Danville.—Surveys have been commenced by the Danville & Seaboard Railroad Co. Their road will extend to Henderson, N. C.

Estillville.—Kane Bros. and others will erect a saw and planing mill and a veneering factory and possibly a stave factory.

Estillville.—M. F. Wood, of Greenup, Ky., and others will erect a mill in Scott county to cut lumber and staves.

Farmville.—Samuel P. Bolling has contracted to furnish John P. Pettyjohn, of Lynchburg, with 250,000 bricks for the Norfolk & Western Railroad Co.'s machine shops, lately reported to be built at Burkeville.

Harrisonburg.—Clem & Wenger write us that they will not rebuild their burned flour mill.

Kountz.—A flour mill has been erected by Peter C. Foltz.

Leesburg.—Bids for building the jail previously reported will be received until February 4 by Edgar Littleton. Bids for the iron and steel work are to be separate.

Lynchburg.—\$150,000 has been raised toward building the cotton mill previously reported. It has been decided to incorporate the mill with a land and improvement company with a large capital. When formed the company will build the belt railroad previously reported.

Marion.—The contract to build the water works previously reported has been let to the Glamorgan Co., of Lynchburg, at \$12,000.

Martinsville.—John D. Spencer will receive bids (for a short time) for constructing the first division of the Roanoke & Southern Railroad from Winston, N. C., to Martinsville.

Norfolk.—Umstadter & Myers will erect a fine store building.

Norfolk.—A bill has been introduced in the legislature at Richmond to incorporate the West Norfolk Land & Improvement Co. to build wharves, piers, warehouses, &c., build and operate street railroads, &c. The corporators are S. B. Carney, W. F. Wise and others. The capital stock is to be not less than \$50,000 nor more than \$5,000,000.

Petersburg.—The name of the gas company reported last week as formed is the Petersburg Fuel, Power & Lighting Co. Stith Bolling is president and R. B. Mahone, secretary and treasurer. They will spend about \$100,000 in building water-gas works.

Petersburg.—Patrick Kelly, of Richmond, contemplates starting a tobacco box factory.

Petersburg.—Parties have been prospecting with a view to starting a soap factory.

Portsmouth.—The Portsmouth & Suffolk Water Co. are negotiating for a site to build a reservoir.

Pulaski City.—Nicholson & Teaney will add to their brick works the manufacture of pressed brick.

Richmond.—The Virginia Electric Light & Power Co. have purchased the plant of Schuyler Electric Light Co., and will, it is said, erect a plant corner Seventh and Canal streets. Henry Steers, of New York, is president of the former company, and William M. Motley, Richmond, secretary and treasurer.

Richmond.—The Masonic Temp'e Association proposes to erect a temple to cost not less than \$100,000. William E. Tanner, chairman committee on plans, can give particulars. Work will be commenced within several months.

Richmond.—Bills have been introduced in the legislature to incorporate the Danville & East Tennessee Railroad Co.; the Danville & North Carolina Railroad Co.; the Virginia Mining & Manufacturing Co., with a capital stock of not less than \$10,000 nor more than \$2,500,000, and Basil B. Gordon, of Baltimore; A. S. Buford, Joseph R. Anderson, J. Wilcox Brown and others as corporators; the Falls Church Telephone Co.; the Danville Storage & Warehouse Co., capital stock \$100,000, with F. H. Burton, J. G. Penn, J. H. Schoolfield, J. M. Neal and others as corporators; the Berkley & Currituck Turnpike Co.; the West Norfolk Land & Improvement Co.; the James River Valley Construction Co., to build railroads, bridges, docks, piers, &c., with a capital stock of \$100,000, and James F. Bradley, T. B. Dorsey, George Beade, P. C. Warwick as corporators; the Southern Guarantee & Trust Co.; the Virginia Savings, Trust & Safe Deposit Co., with James B. Pace, R. H. Temple and others as corporators; the Warwick Park Transportation Co., to operate steamboat lines, excursion grounds, build tram or street railroads, &c., with James R. Werth, George M. Wilson, A. S. Buford, John E. Taylor and others as corporators, and a capital stock of not less than \$10,000, nor more than \$500,000; the Manchester Manufacturing Co., to mine coal, iron ore, limestone, fire clay, &c., manufacture iron, lumber, &c., with E. M. Crump, M. R. Lloyd, John W. Fisher, C. F. Russell and B. C. Cook as corporators, and a capital stock of not less than \$20,000 nor more than \$100,000; the Richmond & Eltham Railroad & Navigation Co.; the Wythe Canning & Manufacturing Co. and the North Amherst Railroad Co.

Spotsylvania County.—Mr. Gray, of Illinois, will build a saw and grist mill.

Wytheville.—The Pulaski Iron Co., of Pulaski City, have purchased the Tipton iron ore property on Little Reid Island Creek.

#### WEST VIRGINIA.

Clarksburg.—The Clarksburg Electric Light Co. will erect a plant with a capacity of 800 lights. Are securing prices on machinery. W. T. Richards and C. M. Hart are interested in the company.

Grafton.—John T. McGraw will build a hotel.

Hendricks.—It is reported that the Hullings Lumber Co. will build a mill during the coming summer.

Huntington.—J. L. Caldwell and associates, previously reported as contemplating building a street railroad, have been granted a franchise by the city council.

Parkersburg.—A Philadelphia party is negotiating to build a pipe line to Parkersburg to furnish natural gas.

St. George.—The Cheat River Boom & Lumber Co., recently reported as chartered, are building a boom on the Black Fork branch of the Cheat river at Hendricks.

Wheeling.—John M. Sweeney and others are making efforts to form a \$400,000 stock company to establish large plate glass works. Outside parties will furnish \$150,000 if balance is raised in Wheeling.

Wheeling.—The Wheeling Stock Yards Co. will move their yards to another location.

Wheeling.—The name of the company reported last week as formed to manufacture axles is the Spears' Axle Co. The company will manufacture other articles also, and are preparing to erect works. The incorporators are Ralph R. Spears, John G. Hoffman, Sr., John G. Hoffman, Jr., Andrew Reitz and Nicodemus Reitz. The authorized capital stock is \$200,000.

Wilsonia.—A vein of cannel coal has been found, it is said, on the land of L. Levering.

#### BURNED.

Baltimore, Md.—The furniture factory of Edward W. Read & Co. damaged \$2,000 by fire.

Bladesboro, N. C.—The saw mill and gin owned by C. O. Mercer, of Charlotte; loss \$2,000.

Clinton, N. C.—The carriage shop of J. R. Beaman.

Crab Orchard, Ky.—The mill of Mr. Holdman near Crab Orchard.

Ellaville, Ga.—The mill of Mrs. M. E. Hart.

Falling Waters, W. Va.—The flouring mill of Mrs. Elizabeth Staley.

Gainesville, Texas.—The flour mill of Brady Bros.; loss \$14,000.

Headland, Ga.—The ginnery of W. H. Taylor wrecked by a flood.

Huntsville, Texas.—The Walker county courthouse; loss \$8,000. Will be rebuilt.

Jonesboro, N. C.—The saw mill of Worthie & Son damaged \$2,000 by a boiler explosion.

Lake Charles, La.—The saw mill and dry kiln of W. B. Norris.

Mobile, Ala.—The cotton pickery of Robert Middleton.

Mt. Sterling, Ky.—The Kentucky Steam Laundry leased by Mrs. L. M. Doudna; loss probably \$4,000.

Post Oak, Texas.—The steam saw and grist mill and gin of T. H. Stud; loss \$5,000.

She man, Texas.—The Southern Hotel owned by A. A. Leard.

Vicksburg, Miss.—The printing office and bindery of the Vicksburg Printing & Publishing Co. Will be rebuilt.

Washington, D. C.—The sewer pipe works of Angus Lamond at Lamond's Station damaged by a boiler explosion.

Washington, D. C.—The iron foundry of Pettet & Dryup damaged \$3,500 by a boiler explosion.

The gins of William Simpson, 8 miles from Florence, Ala.; Mrs. Brien, Franklin Parish, La.; John G. Askew, Harrellsville, N. C.; Benjamin Sturdevant, Twilight, Miss.; Elihu Walton, in Dooly county, Ga.; J. A. Milam, Mount Hope, Ala.; W. A. Polley, Lownesboro, Ala.; Mrs. Hope, in Morehouse Parish, La.; William A. Horne, Greenville, Texas; A. J. Thompson, Cochran, Ga.; Carroll Jones, Natchitoches Parish, La.; Alexandria, Lyerly, Cleveland Mills, N. C.; W. G. Weathersbee, 10 miles from Ellenton, S. C.; Mrs. F. H. Rhodes, 11 miles from Hephzibah, Ga.; O. T. Howard, Columbus, Ga.; John Thatcher, 20 miles from Texarkana, Texas, and George Jones, Harrisburg, Ark., have been burned.

#### To Develop Iron Ore Mines.

GREENVILLE, S. C., Jan. 8, 1888.

*Editor Manufacturers' Record:*

We propose to commence work just as soon as the weather will permit opening our iron mines at Collinsville, Ala., on the Alabama Great Southern Railroad. Will build a branch railway one mile from Alabama Great Southern Railroad, and the company will be known as the Collinsville Mining & Manufacturing Co. W. H. Denson, Gadsden, Ala., is president, and I will be general manager, with office at Collinsville.

JOHN MCFALL.

#### Asbestos Purchasers Wanted.

ANNISTON, ALA., Jan. 2, 1888.

*Editor Manufacturers' Record:*

I forward you by mail to-day a specimen of asbestos, from a deposit near here. Please do me the favor to put me in correspondence with parties who use, and probably would purchase.

D. R. KLINGER.

#### MACHINERY WANTED.

[If you desire to purchase machinery of any kind consult our advertising columns, and if you cannot find just what you wish send us particulars as to the kind of machinery needed. We will make your wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. You will then get all information desired as to prices, etc.]

A second-hand 10 horse power engine and a small planer and mat-hatcher are wanted by A. B. Cummings, Jonesboro, Tenn.

Barrel Machinery—The Aiken Mining & Porcelain Manufacturing Co., Aiken, S. C., want to buy machinery for making barrels and barrel staves. The barrels are to have a capacity of one ton of kaolin.

Boiler and Engine—Neely & McCord, Pulaski, Tenn., want to purchase boiler and engine for flour mill to be built.

Brick Machinery—D. M. Miller, Salisbury, N. C., wants to purchase a brick machine that will make from 20 M to 25 M per day and a 20 horse-power boiler and engine.

Brick Machinery is wanted by W. J. Bickerstaff, Seale, Ala.

Canning Machinery—S. R. Miller, Kissimmee, Fla., wants to purchase machinery for a small canning factory.

Canning Machinery is wanted by J. T. Crush, Fincastle, Va.

Canning Machinery—W. T. Christopher, Montezuma, Ga., wants information as to the cost of machinery for a small canning factory.

Canning Factory—S. T. Shaver, Troutville, Va., wants to purchase machinery for a canning factory.

Clay Pipe—W. E. Cutshaw, city engineer of Richmond, Va., is advertising for proposals for furnishing vitrified clay pipes.

Cotton and Woolen Mill—Parties in New Orleans, La., contemplate starting a cotton and woolen mill, and want the address of mill engineers who can make reliable plans and estimates. Address: F. W. Freret, 6 Tchoupitoulas street.

Electric Light Machinery—The Clarksburg Electric Light Co., Clarksburg, W. Va., are getting estimates, etc., on machinery for their plant.

Engine and Boiler, 30 horse-power, are wanted by J. A. Papot, Walterboro, S. C.

Flour Mill Machinery is wanted by Rogers & Bastman, Carlisle, Ky. The daily capacity of their mill is to be 75 barrels.

Iron Roofing—H. M. Turner, Pernello, Va., wants to purchase iron roofing.

Laundry Machinery—D. L. Tope, Tullahoma, Tenn., wants prices on hand and power machinery for steam laundry.

Laundry Machinery—J. L. Collins, Tullahoma, Tenn., wants prices on machinery for a laundry, both hand and steam power.

Locomotive—Geo. A. Wagener, Charleston, S. C., president Blackville Newberry & Alston Railroad Co., wants to purchase two good second-hand locomotives and two second-hand passenger cars in perfect order.

Mining Machinery will soon be wanted by J. F. Tarwater, Rockwood, Tenn.

Proposals for gas and oil lamp fixtures for United States courthouse and postoffice at Aberdeen, Miss., will be received until January 18 by the Secretary of the Treasury Department, Washington, D. C.

Proposals for the plumbing work and gas piping for the courthouse, postoffice, etc., at Dallas, Texas, will be received until January 26 by Will A. Freret, Washington D. C.

Rails—The City Electric Railway Co., Little Rock, Ark., will receive until January 21 bids for furnishing 70 gross tons side bearing tram rail, 35 lbs. per yard, 30 feet lengths and 4 inches wide, 3 tons of spikes, frogs, curves, etc.

Sand Blast Apparatus—W. A. Bolles, Dallas, Texas, wants information about sand blast apparatus.

Saw Mill Machinery—A 50 horse-power engine, locomotive boiler and a heavy saw mill are wanted by the Southern Spring Bed Co., Atlanta, Ga.

Saw Mill Machinery—J. L. McLemore, Cherokee, N. C., wants to purchase machinery for a small saw mill.

Spinning machine, one set of cards, one twister, and a blanket loom, all second-hand, are wanted by Stewart Bros., Guyandotte, W. Va.

The Pine Mountain Iron Co., Pineville, Ky., wants to purchase furnishings for their new hot l.

#### To Manufacture Woolen Yarn.

MOSSE CREEK, TENN., Jan. 9, 1888.

*Editor Manufacturers' Record:*

A company has been organized here, with a capital of \$15,000, for the manufacture of woolen yarn. W. S. SIZER.

#### Building Iron Works.

DALTON, GA., Jan. 5, 1888.

*Editor Manufacturers' Record:*

The iron works are now in process of construction and are being built by a stock company, of which R. P. Manly is president; T. R. Jones, treasurer, and G. W. Hamilton, secretary. We will build bridges, iron fencing, house ornamental work, bank vaults and, in fact, anything out of iron or steel that will make us money. T. R. JONES, Treasurer.

#### Bids for Building Railroad Wanted.

MARTINSVILLE, VA., Jan. 6, 1888.

*Editor Manufacturers' Record:*

Work will soon be commenced on the first division (from Winston to Martinsville) on Roanoke & Southern Railroad. Propositions from construction companies will be entertained for a short time if addressed to me as a member of the executive committee; or, failing to contract in that way, the railroad company will undertake the work itself. JOHN D. SPENCER.

WARRENTON, VA., Jan. 5, 1888.

*Editor Manufacturers' Record:*

A proposition in writing was made before the town council on the 30th December to put in water works and electric light, which matter was referred to a committee. It was made by Mr. H. D. Garden, agent for some New York company. JOSEPH H. NELSON.

#### Will Start a Cannery.

TROUTVILLE, VA., Jan. 6, 1888.

*Editor Manufacturers' Record:*

I expect to go into the canning business this coming season if nothing prevents.

S. C. SHOWALTER.

#### Canning Machinery Wanted

TROUTVILLE, VA., Jan. 5, 1888.

*Editor Manufacturers' Record:*

It is my intention to pack fruit and tomatoes this year, and I want to get a boiler and outfit for the business.

S. L. SHAVER

THE sale of over \$3,000,000 of bonds of the Marietta & North Georgia Railroad to New York and foreign capitalists last week shows how the tide of investment is turning Southward. The building of this road will open up a country of wonderful mineral wealth.

THE Graniteville Cotton Factory of South Carolina has declared a 5 per cent. semi-annual dividend.

THE Rome Hardware Co., Rome, Ga., want an agency for some good engine.

## MANUFACTURERS' RECORD.

## More Factories for Asheville.

ASHEVILLE, N. C., Jan. 6, 1888.

Editor Manufacturers' Record:

Mr. W. W. Denning, of Michigan, now residing here, will establish a blind and sash factory here and make doors also. He is going out on the Ducktown road to select the timber for his factory. A party from the North wants to establish a national bank; capital \$100,000. A French syndicate wishes to establish works here to make china ware out of kaolin. They will get the material from Jackson county, on line of Ducktown road. Capital will be \$500,000. Some capitalists from the North will establish works here to make sand paper. Mr. C. E. Graham's cotton factory is all built with 250 looms. He has all the machinery in it. They are getting ready for operations. Col. Bowen, president Cumberland Gap Railroad, (C. C. & C. R. R.) told me Monday he was going to run his road here from Aiken, S. C. We have got to help him. I think this city is on the eve of a grand boom. It will be made a manufacturing city as well as health resort.

W. H. INLOES.

KNOXVILLE, TENN., Jan. 6, 1888.

Editor Manufacturers' Record:

The Unaka Iron Company was organized two months ago in Grand Rapids, Michigan, under the mining laws of that State, with a capital of \$25,000, to purchase and make some developments of magnetic iron ore property in Madison county, North Carolina, six miles from Warm Springs, and about ten miles from the Tennessee line. When additional capital will be needed to carry forward our work the capital stock of the company will be increased. We have been doing some work toward the development of the mine, which already shows an immense body of magnetic ore of good Bessemer quality, low in phosphorus and sulphur and containing a good proportion of manganese and lime. The ore resembles the Cranberry ore more than any other that I have seen. We have ordered a diamond drill and will continue the work of testing. No action has yet been taken by the company toward the erection of blast furnace here or elsewhere. The main office of the company is in Grand Rapids, Mich., but the office of the secretary is here, to whom business communications should be addressed.

H. B. WETZELL, Sec.

## New Saw Mills.

ATLANTA, GA., Jan. 7, 1888.

Editor Manufacturers' Record:

J. M. Nelms, Leeds, Ala., has purchased of Russell & Co. a saw mill and will operate same at Leeds, Ala. Messrs. J. C. James & Son (P. O. Douglasville, Ga.) have purchased of Russell & Co. one saw mill and will operate same at Salt Springs, Ga. The Southern Spring Bed Co., of this city, are desirous of purchasing 50 horsepower engine, locomotive boiler and heavy saw mill. Will run same in the interest of the company.

J. W. DUNN.

## To Build Water Gas Works.

PETERSBURG, VA., Jan. 9, 1888.

Editor Manufacturers' Record:

The name of our company is the Petersburg Fuel, Power & Lighting Co., for lighting and heating. We will build works. The officers are Stith Bolling, president, and R. B. Mahone, secretary and treasurer.

X.

FLATONIA, TEX., Jan. 3, 1888.

Editor Manufacturers' Record:

We have a tannery just starting in Flatonia, under the name of J. D. Braddock & Co.

J. R. CROCKETT.

## Will Erect Saw Mill at Anniston.

EULATON, ALA., Jan. 6, 1888.

Editor Manufacturers' Record:

It is our intention to erect a saw mill in Anniston with a capacity of 15,000 feet per day, with probably other machinery attached.

SKELTON, McDANIEL &amp; CO.

## Lumber and Stave Mill.

GREENUP, KY., Jan. 7, 1888.

Editor Manufacturers' Record:

Myself and others are making arrangements to put up a mill in Scott county, Va., to cut lumber and staves.

M. F. HOOD.

## Will Start Brick Yard.

SALISBURY, N. C., Jan. 7, 1888.

Editor Manufacturers' Record:

I expect to start a brick-yard early in the spring. Expect to make at least 2,500,000 brick.

D. M. MILLER.

## Electric Light Plant.

CLEVELAND, TENN., Jan. 6, 1888.

Editor Manufacturers' Record:

This city will within next 90 days have electric lights. The Thompson-Houston Electric Co. will put same in, and run light at said company's expense.

JOHN C. RAMSEY.

## Granite Quarries to be Developed.

CONYERS, GA., Jan. 7, 1888.

Editor Manufacturers' Record:

I have sold two large beds of granite—one is now in full blast operated by Mr. S. A. Pearce (latly of Columbia, S. C.), and one to Geo. W. Collins, and will soon be in operation. The two will work about 1,000 hands by the first of April.

T. H. BRYANS, JR.

## Will Enlarge Brick Works.

CHATTANOOGA, TENN., Jan. 9, 1888.

Editor Manufacturers' Record:

The Chattanooga River Brick Co. will enlarge their brick works to the capacity of 100,000 per day, and are now purchasing machinery for that purpose.

SHANNON &amp; MOORE.

## Will Erect Electric Light Plant.

CLARKSBURG, W. VA., Jan. 9, 1888.

Editor Manufacturers' Record:

A plant will be erected by the Clarksburg (W. Va.) Electric Light Co. of 800 lights, averaging 30 candle-power. We are now securing prices, etc. Intend to run by water-power if water works are built in time. Myself and C. M. Hart have control of company.

W. F. RICHARDS.

ST. GEORGE, W. VA., Jan. 9, 1888.

Editor Manufacturers' Record:

The Hulings Lumber Co. are a part of the Cheat River Boom & Lumber Co. We are now constructing a boom on Black Fork, a branch of Cheat river at Hendricks, where the West Virginia Central Railroad joins the river. I believe the Hulings Lumber Co. intend building a mill near Hendricks the coming summer. For particulars it would be best to address W. J. Hulings, Oil City, Pa.

J. D. HULINGS.

GEORGETOWN, TEXAS, Jan. 3, 1888.

Editor Manufacturers' Record:

The contract was signed yesterday for a three-story rock hotel, fronting 120 feet on Brushy street. George Irvine and Whittle & Harrel, contractors. It will be owned by the San Gabriel Hotel Co.

EMZY TAYLOR, Prest.

## To Build Large Flour Mill.

WACO, TEXAS, Jan. 2, 1888.

Editor Manufacturers' Record:

We intend to build a 400-barrel flour mill and 100 barrel meal mill at Fort Worth, Texas, to be ready for the next crop.

WM. CAMERON.

## To Develop Oil Lands.

LEXINGTON, KY., Jan. 3, 1888.

Editor Manufacturers' Record:

Myself and others have organized a company for the purpose of developing oil lands. It is our intention to start operations as soon as the weather will permit.

A. C. DIAMOND.

C. R. MAKEPEACE & CO.  
ARCHITECTS AND MILL ENGINEERS  
PROVIDENCE, R. I. Plans, Specifications and Estimates furnished for Cotton and Woolen Mills.Manufacturers' Bureau, of Fort Smith, Ark.  
Invite correspondence and propositions from manufacturers with a view to locating at Fort Smith. Fort Smith is the center of an immense semi-anthracite coal, lumber, iron and cotton region, with railroad facilities giving close connections with the markets of Kansas, Texas, Missouri, Indian Territory and Arkansas. Population in 1880, 7,500; in 1886, 14,000; in September, 1887, 18,000.D. W. K. PEACOCK,  
Real Estate Agent,

CARTERSVILLE, GA.

Minerals a Specialty.  
Refers to THE HOWARD BANK, Cartersville, Ga.Gallatin, Tenn., Cotton Factory  
FOR SALE.

Factory is situated immediately on Chesapeake &amp; Nashville R. R., and right in city of Gallatin, on L. &amp; N. R. R. Factory has 800 horse power engine, 126 looms, with sufficient machinery to run the looms to their full capacity; never failing water for all purposes. Machinery all in good running order. All machinery automatic and of latest improved kind. Makes from 7,000 to 7,500 yards of goods per day. Looms 44, but arranged to make, when desired, either 3 or 36. There is also attached to factory merchant grist mill; in addition large double brick house, also eleven cottages for operatives. Property cost \$15,000. Will be sold at a bargain. Machinery will be sold separately if desired. There are some 30 acres of land adjoining factory. For particulars address

BANK OF GALLATIN,  
Gallatin, Tenn.GREEN FOREST,  
Rockbridge County, Va.

Best location in the State for a Furnace. Vast beds of rich Buena-Vista iron are at hand. Coke at less than three dollars per ton. Eight acres for a site offered FREE on the S. V. R. and the R. &amp; A. Railroad.

Best location for a Paper Mill. Supply of soft wood unlimited. Two acres FREE for a site.

Best location for a Woolen Mill. One acre FREE for a site. Large water power available. Write to

H. C. MOONAW.

R. H. NEILSON.

E. E. MASTERN.

R. H. NEILSON &amp; CO.

## REAL ESTATE

—AND—

## Abstract Agents

## Bond and Stock Brokers,

Tuscaloosa, Alabama.

Ten years' experience in handling Southern lands. Coal, iron and pine lands a specialty. Refer with permission to F. S. Moody, president First National Bank; J. H. Fitts, president Castle Hill Land Co., and Fitts' Bank.

Office up Stairs, Over Spiller's Store.

Well posted in coal and pine lands.

SALE OF  
Cotton Factory  
FLOURING MILL,  
AND OTHER  
Valuable Real Estate.

By virtue of a deed in trust, executed to me by A. Hines and wife, M. B. Hines, of Surrey county, recorded in book 1, page 520-521, register's office of Surrey county, on 25th day of June, 1888, I will expose to sale at public auction in Mt. Airy, on WEDNESDAY, the 1st day of February, 1888, the following described real estate, lying in the town of Mt. Airy on the Ararat river, known as the HAMBURG MILLS, containing 41 $\frac{1}{2}$  acres. On this tract is situated a BRICK COTTON FACTORY, fully equipped with machinery, a VALUABLE FLOURING MILL, SHOE FACTORY, STOREHOUSE, and a number of tenement houses. This is one of the finest water powers in Surrey county. The Mill is within one mile of the railroad, and is one of the finest properties in North Carolina. Terms of sale, cash.

J. C. BUXTON,  
Trustee

Dec. 19th, 1887.

**To Erect Additional Furnaces.**

KNOXVILLE, TENN., Jan. 6, 1888.  
Editor Manufacturers' Record:

The Edes, Mixer & Head Zinc Co. expect to erect two more furnaces during the year. **EDES, MIXER & HEAD ZINC CO.**

**To Build Large Church.**

COLUMBIA, S. C., Jan. 5, 1888.  
Editor Manufacturers' Record:

The trustees of St. Paul's Lutheran Church will erect a chapel and church costing about \$40,000. I am now making drawings. **FRANK NIERNSEE, Archt.**

**Will Erect Cold Storage Warehouse.**

CEDAR KEY, FLA., Jan. 2, 1888.  
Editor Manufacturers' Record:

The American Refrigerating & Construction Co., of Harrisburg, Pa., are now erecting a 10-ton ice factory at this place. In connection with this the American Ice & Cold Storage Co., of Cedar Key, will erect a large brick building for cold storage purposes. This will be done to accommodate the large fish, fruit and melon shippers of this coast and section. The ice factory will be in operation within two weeks from this date.

**JAS. O. ANDREWS.**

**To Erect Electric Light Plant.**

RALEIGH, N. C., Jan. 9, 1888.  
Editor Manufacturers' Record:

A company composed of parties interested in the Raleigh Gas Co. has been formed to supply electric lights, &c.

**C. M. HAWKINS.**

**Will Enlarge Cotton Mills.**

KNOXVILLE, TENN., Jan. 6, 1888.  
Editor Manufacturers' Record:

We will increase the capacity of our plant a little over one-half and put in a dye plant, warehouse, machine shop and new brick office. It will then stand on the increase 12,000 spindles and 425 looms on fancy plaids and stripes.

**BROOKSIDE COTTON MILLS,**  
C. J. SWEET, Agent.

**Wood-Working Factory.**

MOREHEAD, KY., Jan. 6, 1888.  
Editor Manufacturers' Record:

Hixon, Rodman & Co. are putting up a splendid mill at Martin's Switch, 1½ miles from this place. Have wood-working machinery of all kinds. Are building a town. They will commence manufacturing early in the spring. **EDITOR BLADE.**

**New Foundry and Machine Shop**

DAYTON, TENN., Jan. 6, 1888.  
Editor Manufacturers' Record:

We are building a new machine shop and foundry at this place. The foundry is 46x60 feet, and the machine shop is an L 40x60 feet. Hope to be ready to run about the 15th proximo. Business is rushing us here. Weather is warm and pleasant. It is rumored the Dayton Coal & Iron Co. contemplate putting in steel works in the spring. There are two new roller process mills built and opened here this winter.

**WHITE & DIXON.**

LOVELY MOUNT, VA., Jan. 2, 1888.  
Editor Manufacturers' Record:

E. A. Mills is the head of the syndicate that are to build furnaces. Pulaski City, Va., is his address. Geo. E. Cassel starts a bone mill here soon. Chas. Lucas opens a large brick-yard as soon as the weather permits. Other enterprises are contemplated, but nothing definite.

**G. A. SULLIVAN.**

**Fuel Gas.**

The "Loomis" process of fuel gas making, which is being thoroughly tested by Messrs. Henry Disston & Sons, the saw manufacturers, of Philadelphia, gives promise of proving a great success. A number of Baltimoreans and others interested in the gas business and in manufacturing enterprises visited the Disston works last Saturday to investigate this process of fuel gas manufacture. From the report of their trip as given in the Sun we take the following facts that will be of interest to our Southern friends, as they show that whether natural gas be found or not, here is a cheap process for securing gas as a fuel:

At 11:30 the party reached Tacony. The car with special engine from Philadelphia stopped at the Disstons' office, a long, rambling structure of antique appearance, that was a Pennsylvania Railroad hotel in the slow old times, when people used to stop there over night and deliberately continue their travels to New York next day. The grounds cover 24 acres, and the shop works 1,900 hands.

In one of the smaller buildings was found the Loomis gas generator. Those who had come with the idea of seeing a complicated piece of machinery were disappointed. Here was simply a rectangular iron furnace, about 20 feet long, 15 feet high and 8 feet across, with its top on a level with the second floor. It was divided into three equal compartments by iron walls running across the eight-foot way. Each compartment had two traps in the top, making six in all.

One man was slowly feeding the furnaces with fuel, consisting of a mixture of anthracite screenings and bituminous slack, the process consisting of simply covering every bright spot where the fire had eaten upward through the mass with a new shovelful of fuel. All the traps were open, and no heat was felt, though the burning mass was 9 feet deep, and when one of the party accidentally dropped a pencil into the furnace the tender obligingly jumped in and recovered it.

The shortest way to explain the operation of the Loomis generator is to say it is the usual water gas generator turned upside down, for instead of using a natural upward draft or forcing air upward through the mass of coal to bring it to about the 1,900 degrees of heat required for water gas, the gas is sucked from the bottom of the furnace by a blower working in reverse, and is delivered wherever wanted, whether to a furnace or receiver. Thus the one process of carrying off the gas produces the draft, that at Tacony, at present, in the absence of the gas holder, being immediately used in an annealing furnace.

Downstairs were openings in the furnace, where the ashes were raked out, and a small heap of white ashes mingled with small coke cinders was found.

The process by its downward trend carries every residuum through the fire, burns the coal tar and smoke, and captures every particle of gas in any gas making material fed in from above. Holes covered with mica in the furnace permitted the visitors to see the gas on its course to the main pipe.

Until the furnace is sufficiently hot to make water gas the gas produced is called "generator gas." This contains about 24 per cent. of carbonic oxide, 65 of nitrogen, 6 of hydrogen, and some other gases. It is in all other processes blown out of high stacks in sheets of red and blue flame, together with smoke, and is, of course, wasted. The Loomis system calls it "fuel" gas, and the plant at Disstons' was furnishing it steadily to a furnace to heat steel blooms for rolling into saw steel.

In the sides of the gas furnace, striking at three different depths into the fire, were steam pipes leading from the Hazleton boiler. When the heat is sufficient the top traps are shut, the dry steam is admitted, is decomposed into water gas, and the blower then draws out water gas instead of the less valuable generator gas. The engineers said: The "Loomis" would "gasify" from bituminous coal slack or culm, anthracite coal, slack or screenings, dust or coke, and that from a ton they were getting 45,000 feet of water gas and 150,000 feet of generator gas.

The party were next taken to a rolling mill. Under its roof were the steel furnace, the blower and the engine that works it. The furnace has three openings. The doors were lifted, showing a red heat and a number of oblong blocks of steel kept from

they have countermanded for one of over 100,000 feet, and they expect to furnish heat and light to the settlement of Tacony, besides using the gas altogether in their factory.

Mr. Baker, of Baltimore, said he was perfectly satisfied that the purity and power of the heat was all-sufficient for his glass-smelting, and after he had satisfied himself beyond doubt of its cheapness he would recommend its use at his firm's works.

Mr. Morton offered to give bonds guaranteeing a saving of 33½ per cent. if Mr. Baker would guarantee in turn to give him all the value of the saving over that.

Mr. Francis P. Stevens said he was satisfied that the American Electric Co. would use the gas for generating power, and told Mr. Loomis that company would probably be one of its first customers. Mr. Gambrill



FIG. 1.

the floor by resting upon coke. At the end the gas is admitted and evenly diffused by passing through a checker work of fire bricks loosely criss-crossed for a height of 28 inches. The smokeless gas could be seen rapidly circulating from one end to the other, and passing toward the chimney out of which the waste heat goes. The workers rolled out all the blooms into thin saw steel, and the furnaces were then closed for 20 minutes. At the expiration of that time they were opened and the entire furnace was at such a white heat that the eye could only dwell upon it for a couple of seconds. The scientific men present said the heat was sufficient to easily melt platinum. A valve was opened to allow the escape of the gas, which, in the cool air, formed a light gray vapor. In warm weather it is said to be less visible.

The Messrs. Disston say they have been using the Siemen gas for three years, intend-  
ing that the power of his mills exceeded greatly that of the Disston works, and the estimated saving would be very great at the Druid Duck Mills.

The Disstons calculate that the labor employed in firing their furnaces and boilers with gas will be almost a trifle compared with coal firing.

**Wheelbarrows With Bolted Braces.**

We illustrate a few of the designs of wheelbarrows manufactured by the Bryan Manufacturing Co., Bryan, Ohio, which was the first concern, it is said, to introduce and construct wheelbarrows with a system of braces bolted together.

Bolts cost more than nails, and hard wood more than soft wood; careful and competent labor more than cheap help; but these are points that must be considered by



FIG. 2.

dealers and users of wheelbarrows. These wheelbarrows are constructed of the best timber, and the parts are all adjusted by bolts properly braced, and no nails are used in their construction at all.

Ten or more styles are made—adapted to different purposes. The farm and garden, stone and brick barrows and those adapted for use in mines and in railroad work are models of perfection and strength. The latest catalogue and price-list of the Bryan Manufacturing Co. is now out and will be sent upon application to dealers, contractors, etc.

THE publishers of The Age of Steel, of St. Louis, announce that they will, commencing with January 11th, publish a paper devoted to the lumber and saw mill interests of the West and South. Success to the new enterprise.

## Common Sense Sash Pulley.

We illustrate herewith a comparatively new article of interest to all connected with the building trades. Fig. 1 shows a pulley detached; Fig. 2 its mortise, made wholly

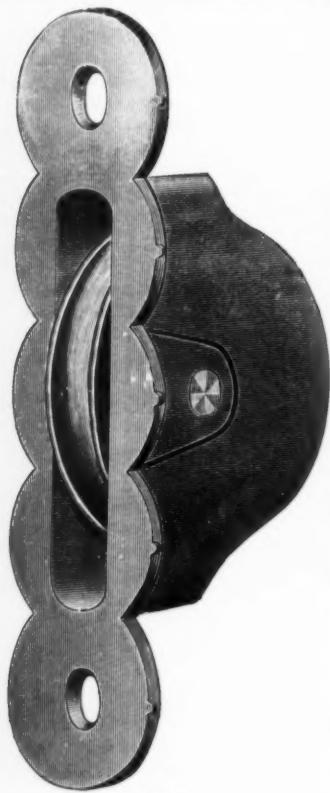


FIG. 1.

with a one inch bit, and Fig. 3 the pulley inserted in the mortise. Besides a close locking fit of the face-plate in the mortise, the case is also held very securely, having end and side bearings. The small projections shown on one edge of the face are

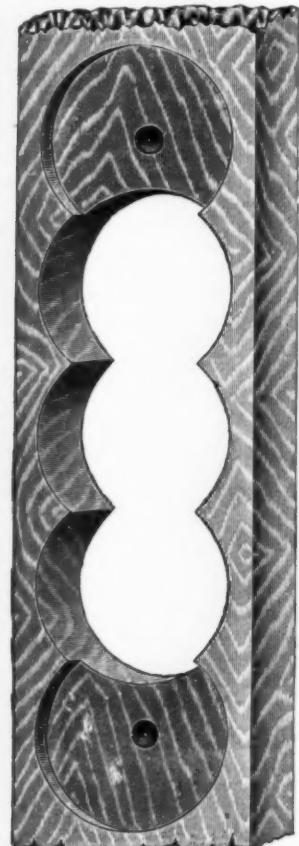


FIG. 2.

marking spurs, which quickly and accurately indicate the centers for boring the mortise by indenting them into the jamb when placed in the desired location. The manufacturers call attention to the point, and say that this is the only pulley ever devised with special reference to rapid application that

retains one very essential feature of a pulley, viz., a face-plate and screw fastenings, to which feature is due its great popularity among architects as well as builders. They

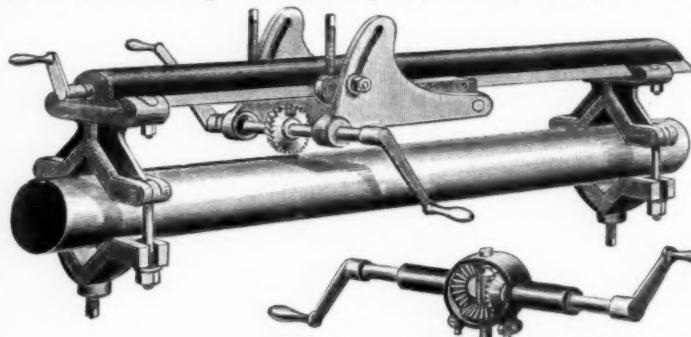


FIG. 3.

are for sale in large or small quantities by Wm. C. Codd, 2010 and 2012 Aliceanna street, Baltimore, Md.

## Patent Portable Key-Seating Machine.

The patent portable key-seating machine, which we illustrate, is driven by hand or power. The larger sizes are powerfully geared, and driven by round belts in the same manner as portable drilling machines. Where large shafts are used in construction of machinery it will be found very useful, saving the handling of the shaft. The machine can be driven in almost any position. It can be attached to any size shaft from  $1\frac{1}{2}$  to 6 inches in diameter. The brackets are planed in perfect alignment with the slide beam, making the machine self-setting. They are secured to the beam by bevel-headed bolts, and tightened with a nut, as shown in cut. The carriage can be used on



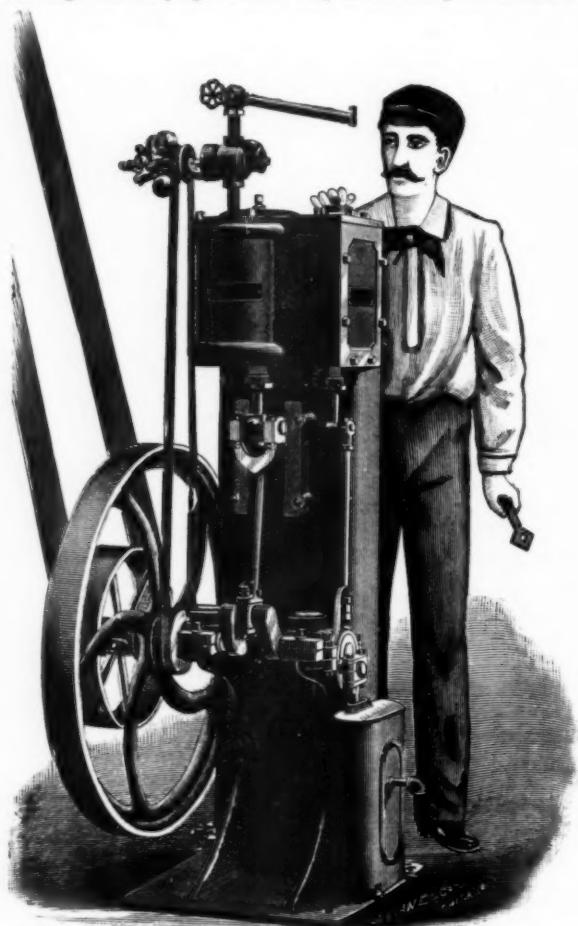
PATENT PORTABLE KEY-SEATING MACHINE.

end of beam to cut slots in end of shafts. Any length slots can be cut by slipping machine along shafts. Carriage is actuated by a screw and fed by hand, or driven from cutter shaft to a worm and worm wheel, as in case of larger size of machine. The screw passes the slide beam from end to end. The swinging frame with arc slots swings on pivot. This frame is secured with two bolts in arc slots, and cutter-shaft has bearing on each side. To sink cutter into

narily used for slotting heavy shafts. It is readily attached to any shaft within its range of work, and when so attached it is used to great advantage. It is well designed and well built, is easily operated, and is very durable. It is valuable for slotting shafts in position, as in repairs of mills and places where slots have to be chipped with a cold chisel. Messrs. Pedrick & Ayer, 1025 Hamilton street, Philadelphia, Pa., are the manufacturers.

## A New Engine.

Messrs. Chas. P. Willard & Co., 236 Randolph street, Chicago, who have been for the past three years manufacturing the Davey Safety engine, have placed upon the market a new form of motor of 1, 2 and 4 horse-power, especially designed for school-houses, court-houses, office buildings or private residences, where a system of low pressure steam heating is in use, for running machinery or circulating hot or cold air by means



A NEW ENGINE.

spindle with a cutter drill. The trunnions fit the bearings in swinging frame; this attachment is driven by three mitre gears and cranks on either side of machine. There is means of adjustment to keep spindle in a vertical position. This machine will be found very useful in marine and steam engine works also. It can be used to slot key-ways in propeller shafts in case of repairs, and in shops where planes are ordinary.

DOCKHAM'S Directory of the Textile Manufactures and Dry Goods Trade for 1888 is a work of great value to all interested in or dealing with any branch of textile business. A full list of all the cotton, woolen, silk and jute mills of the country, particulars in detail as to the amount and character of machinery of each is given. It also contains a list of the dealers in cotton, wool, dry goods, etc., throughout the country. This is the twenty second year of the publication of this directory. It is published by Messrs. C. A. Dockham & Co., Boston, Mass.

ADVERTISERS wishing to reach the manufacturers of all classes, mining companies, steel, iron and hardware dealers of the entire South, cannot find a better medium than the MANUFACTURERS' RECORD,

# ALABAMA'S GREAT MINERAL WEALTH

SURROUNDS THE

## ★ CITY OF TALLADEGA, ★

Which, according to statistics, is the **MOST HEALTHFUL CITY IN ALABAMA**, and the County Seat of Talladega County.

THE CITY HAS A POPULATION OF 5,000, AND ITS POPULATION IS RAPIDLY INCREASING.

**T**ALLADEGA is on the main line of the E. T. V. & G. Railroad, the A. & A. Railroad, and is the present terminus of the T. & C. Railroad. Work is rapidly progressing on the Birmingham & Savannah Air Line Road, between Birmingham and Savannah, and within twelve months this road will be completed via Talladega from Birmingham to Savannah, which will place Talladega on the direct line from Birmingham to deep water on the Atlantic, making

**TALLADEGA ONE OF THE BEST DISTRIBUTING POINTS IN THE STATE.**

THE CITY HAS

### AN EXCELLENT SYSTEM OF COMMON GRADED SCHOOLS,

With a scholastic population of 500, and **THE MOST COMMODIOUS AND ATTRACTIVE PUBLIC SCHOOL BUILDING IN THE STATE**. The main building is a three-story brick, slate roof structure, well ventilated, heated by steam; has accommodations and seating capacity for 500 pupils. This school is owned and sustained by the city. All branches of English literature, foreign languages, music, the sciences and art, are taught for a nominal tuition. Among other educational institutions are the following:

**SYNODICAL FEMALE INSTITUTE**, Property valued at \$50,000.

**D. D. & B. INSTITUTE**, Property valued at \$150,000.

**BLIND INSTITUTE**, (in course of construction,) property valued at \$150,000.

**FOSTER COLLEGE**, property valued at \$150,000.

No other city in Alabama has so many educational institutions and so many public buildings.

### ← TALLADEGA HAS THE MOST COMPLETE SYSTEM OF WATER WORKS IN THE STATE. →

The stand pipe has a capacity of 175,000 gallons, and into this reservoir a supply of fresh, clear, pure water is pumped every day from a large spring located in the heart of the city, which discharges over 2,000,000 gallons per day. The gravity pressure from this system is 90 pounds to the square inch in the business portion of the city. The city has broad streets, well macadamized and shaded with beautiful trees, and is well lighted with a **SUPERIOR QUALITY OF GAS**. Sixty fire plugs and forty gas lamps protect against fire and illuminate the streets.

**A LARGE FURNACE PLANT** gives employment to thousands of hands, and makes a high grade of chilled car-wheel iron from ores, limestone and coal within ten minutes haul by rail, or an hour's haul by wagon. **FOUR LARGE LUMBER MILLS**, with an aggregate daily capacity of 200,000 feet of lumber, cut from the long-leaved yellow Pine of this country. **FOUR BRICK YARDS** are in active operation. A **SASH, DOOR and BLIND FACTORY**, a **FOUNDRY, MACHINE SHOP, FLOUR MILL, COTTON-SEED OIL MILL**, and various other industries are in successful operation, and the **TALLADEGA ICE CO.** cools the thrifty population with pure ice at 50 cents per hundred. Another large furnace plant will be completed within the next ten months. A Spoke and Handle Factory and many other industries are projected, with a view to early completion.

Taxable property has increased 100 per cent, within the past twelve months. The rate of taxation is limited in the city charter to half of one per cent., and the city offers an exemption from taxation to all manufacturing enterprises for a period of ten years. The county of Talladega supplies more crude material, in the way of minerals and timber, than any other county in the State. Almost within the corporate limits of the city are extensive deposits of the highest grades of limonite ores, yielding 50 to 58 per cent. metallic iron, with only a trace of phosphorus, and limestone abounds in the greatest abundance. Coal is within twenty miles by rail.

**THE TALLADEGA LAND & IMPROVEMENT CO.** owns 5,000 lots suitable for residences, business and manufacturing, in and adjacent to the city. Lots are donated to manufacturing enterprises, and liberal inducements offered to actual settlers. **SPRING LAKE PARK** is owned by this company, and it is being made the most attractive resort in the State. The lake covers an area of seven acres, and is a beautiful sheet of clear spring water. Parties seeking a healthy climate, free from malaria and epidemics, and a prosperous city, are invited to visit Talladega. Address for maps, etc.

**The Talladega Land & Improvement Co.,**  **Talladega, Ala.**

# ATHENS, East Tennessee

THE COMING

## →Iron and Manufacturing City of the South.←

Athens is the county seat of one of the most fertile counties in East Tennessee. The health of the city is unsurpassed, and is **ABSOLUTELY FREE FROM ALL MALARIAL OR EPIDEMIC DISEASES**. The surrounding scenery is very fine. From the main avenue the whole valley of East Tennessee can be seen, from the Cumberland Mountains on the west to the Great Smoky Mountains on the east; some of the tallest peaks east of the Rockies being in full view. **FINE MINERAL SPRINGS** are adjacent and are popular summer resorts. The society of Athens is excellent. A cordial welcome is extended to all law-abiding people locating in the town. The **EDUCATIONAL FACILITIES** are good. Beside public and preparatory schools, Athens is the seat of **THE GRANT MEMORIAL UNIVERSITY**, which has an enrollment of over 300, and whose graduates include some of the most distinguished citizens in the country. Among the industries and institutions of the place in active operation are:

**THE ATHENS BUILDING & LOAN ASSOCIATION, \$250,000.**   **THE ATHENS WOOLEN MILLS, \$100,000.**

**THE FIRST NATIONAL BANK, \$50,000.—To be increased at once.**

**FOUNDRY & MACHINE SHOPS, \$25,000.**

**FURNITURE WORKS, \$15,000.**

**FLOURING MILLS, \$20,000, etc.**

500 men are now at work on the new railroad from Athens to the

## RICHEST IRON FIELDS IN THE SOUTH.

JUST EAST OF THE TOWN.

Only eight miles from Athens are **VEINS OF RED FOSSILIFEROUS ORE 11 FEET THICK**, and 4 to 12 miles beyond are **THE LARGEST DEPOSITS OF BROWN ORES IN THE SOUTH**. The ores of both varieties, in addition to being inexhaustible, are both superior in quality to any ores of either variety at present mined in the South. An assertion that can be sustained. Coke can now be obtained at the lowest prices, and in addition a new railroad is now projected to the Cumberland Coal Fields, only 22 miles distant. These roads will give Athens **UNSPASSED SHIPPING FACILITIES**. The road under construction will penetrate large deposits of Tennessee Variegated Marble; also an Unopened Timbered Region, and will develop the

## Largest Colored Slate Deposits in the United States.

These quarries are now being opened, and are pronounced by experts Absolutely Inexhaustible, and equal in quality to the finest Vermont Colored Slate.

## The ATHENS MINING & MANUFACTURING CO.

Have alone just contracted for the erection of over

**\$500,000 IN NEW MANUFACTURING ENTERPRISES**

At Athens, including a 100 ton Blast Furnace, cost \$200,000; Cotton Mills, cost \$150,000; Furniture Works, employing 200 men, cost \$100,000; Hotel, cost \$60,000; Water Works, Street Car Lines, &c. These improvements have been commenced which, added to other improvements projected, will add

**\$1,000,000 OF NEW MANUFACTURING ENTERPRISES TO ATHENS.**

The company desire to open correspondence with parties desiring to locate, and will extend liberal inducements in addition to gifts of sites in order to induce New Manufacturing Enterprises to locate in Athens. City property is doubling in value every few months, and at present low prices is beyond question a very fine investment.

## The Athens Mining & Manufacturing Company,

**R. L. BRIGHT, President.**

**R. J. FISHER, Secy. and Genl. Manager.**

# DECATUR, ALA.

Offers outside investors better inducements to locate than any other

CITY IN THE SOUTH.

AS A CITY OF

## Mammoth MANUFACTURING Enterprises,

She has few equals and no superiors in the South.

There have been located at Decatur in the last four months the following Industries:

**THE DECATUR LAND, IMPROVEMENT & FURNACE COMPANY.** Has 50,000 ACRES of Iron, Coal, Mineral and Timber LANDS  
**The Louisville & Nashville Railway Car Works.** Cost of Buildings, \$300,000.

Charcoal Company's plant, costing \$120,000.  
A seventy-ton Charcoal Iron Furnace, costing \$190,000.  
A one hundred-ton Blast Iron Furnace, costing \$225,000.  
The Decatur Iron Bridge Construction Company; cost of plant, \$100,000.  
The American Oak Extract Company's plant, costing \$60,000.  
Ivens & Sons Steam Boiler and Engine Works, costing \$100,000.  
Morse Cotton Compress plant, costing \$60,000.  
Decatur Lumber Company, Saw and Planing Mills, costing \$50,000.  
Berthard & Co., Sash, Door and Blind Factory, cost \$15,000.  
The Decatur Street Railway Company.  
The Telephone Company.  
Brush Electric Light Company, cost \$10,000.  
The Ironton Wheelbarrow Company, cost \$25,000.  
Howland & Co's Water Works System, costing \$200,000.  
Bleymeyer Artificial Ice Company, cost \$10,000.  
Four Mammoth Brickyards.  
Jones, Poley & Co's Lumber Yards.  
The Hoosier Mills & Building Company.  
The Gate City Sash & Door Company.

Arantz Bro's Mills and Lumber Yards.  
Grant & Co's Furniture Factory.  
Southern Lumber Company.  
H. S. Freeman's Mills and Lumber Yards.  
The Alabama Farmer's Friend Fence Machine Company.  
The Decatur Artificial Stone Company.  
Decatur Chain' and Architectural Iron Works, capital \$100,000.  
Natural Gas Company, capital \$200,000.  
First National Bank, capital \$100,000.  
The Exchange Bank of Decatur, capital \$100,000.  
Merchants' Insurance Company, capital \$100,000.  
Decatur Building Association, capital \$300,000.  
Decatur Building Company, capital \$1,000,000.  
Buchheit's Bottling Works.  
Decatur Printing Company.  
Two daily papers, three weekly papers.  
Two hotels are building—one \$60,000, one \$300,000; the largest in the South.  
Grand Opera House, \$100,000.

\* THERE ARE OTHER \*

## \*Mammoth Enterprises\*

Locating here, and contracts are being made with some of the most extensive industries in the United States.

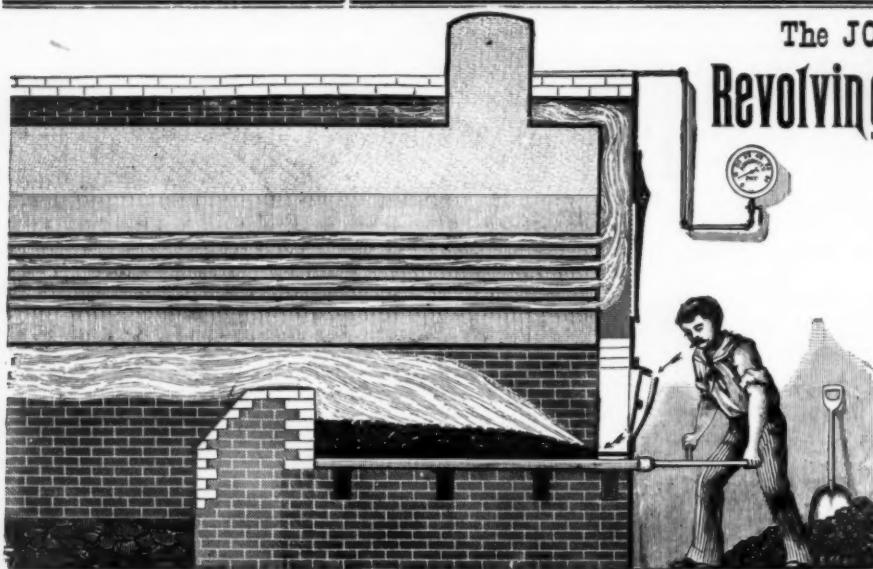
Decatur is the Healthiest city in Alabama, the death rate among whites for 1886 being only 11 in 1,000.

## Decatur Land, Improvement & Furnace Company.

E. C. GORDON, President. H. G. BOND, Vice-Prest. and Gen. Manager. W. E. FOREST, Secretary.

This Company has been pre-eminently successful in promoting the interests of the city of Decatur.

**CORRESPONDENCE SOLICITED WITH PARTIES SEEKING LOCATIONS.**



## The JOHN ASHCROFT Patent TRIANGULAR Revolving Steel Grate Bars & Furnace Doors

Eight per cent. in coal saved by the use of these  
Doors and Steel Bars guaranteed.

These Steel Bars last four times longer than  
any cast-iron bar ever made.

Sectional View of Steam Boiler, fitted with John Ashcroft Patent Furnace Door and Triangular Revolving Steel Grate Bars.

Fireman cleaning fires by shaking and revolving the bars, which thoroughly  
frees the furnace from ashes, and prevents the formation of clinkers, without the use  
of fire tools or opening the furnace door.

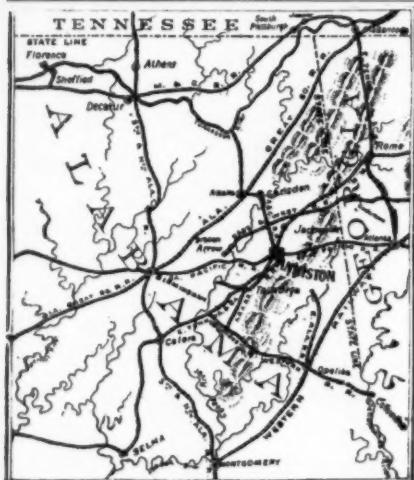
RESULT.—Increase of steam and a saving of coal, and no injury to the boiler  
by cold air impinging on the boiler shell.

By this operation a saving of 8 per cent. is secured.

FOR INFORMATION AND PRICES, ADDRESS

The John Ashcroft Patent Grate,  
Bar and Furnace Door Manfg Co.  
No. 73 Gold Street, New York.

P. O. BOX 100.



REFERENCES:  
First National Bank, Anniston, Ala.  
Col. J. M. McElroy, Pres't. Anniston City Land Co.

## LEDBETTER & CO. \* LAND AND LOAN ASSOCIATION.

Incorporated.

Commission Dealers in

### Lands, Stocks and Bonds.

### —CITY AND MINERAL PROPERTY—

A SPECIALTY.

Capital Stock  
\$100,000

CORRESPONDENCE  
SOLICITED.

◆ ANNISTON, ALA.

Side Bars.  
Jump Seats.

## BUGGIES.

Phaetons.  
Spring Wagons.

J. F. BYRNE, PRESIDENT.

JOS. SHELTON, TREASURER.

J. WERNING, SECRETARY.

ENTERPRISE CARRIAGE MFG. CO. 42 to 80 East Court Street,  
CINCINNATI, OHIO.

—LARGE ASSORTMENT. FULL LINE.—  
CAPACITY 600 BUGGIES PER WEEK.  
Best Work in the United States for the Money.



We want a Country Merchant or Dealer  
to act as our Agent in every County  
in the United States.

## Special Inducements to Dealers Buying Car-Load Lots.

WRITE FOR TERMS AND FULL PARTICULARS. ILLUSTRATED CATALOGUE.

## TRADE NOTES.

ONE of the neatest calendars which we have yet seen is that issued by the Simonds Manufacturing Co., of Fitchburg, Mass. Its very simplicity makes it attractive, and, as a piece of lithograph work, it is beautiful.

THE Horton Manufacturing Co., of Fort Wayne, Ind., have got out a new catalogue and price-list of their specialties, including clothes washers, wringers, ironing boards, clothes racks, corn planters and many other wooden novelties.

A VERY handsome 1887 catalogue has been issued by the Williamsport Machine Co., of Williamsport, Pa. It is finely printed and describes and illustrates a great variety of machines needed in wood-working establishments of all kinds. It will be sent free upon application.

THE receipt is acknowledged of a fine catalogue just issued by E. C. Stearns & Co., Syracuse, N. Y. The book is handsomely bound, containing an unusually large and attractive list of door hangers, screen frames, clamps, vises, augers, and other hardware specialties manufactured by them. Copies supplied to the trade on application.

D. SAUNDERS' SONS, of Yonkers, N. Y., shipped during the month of December, 1887, the following orders: one 12-inch machine to Knight & Gibson, of Indianapolis, Ind.; one 8-inch machine to John Hay, of Alleghany, Pa.; one 6-inch to Russell & Co., Massillon, O.; one 3-inch to Dunham & Carrington, of San Francisco, Cal.; these, besides many smaller orders, which generally make up the bulk of business.

THE Lancaster Steam Pump & Machine Works, (Ezra F. Landis, proprietor) Lancaster, Pa., are just out with a handsomely illustrated 80-page catalogue, which will be sent free to the readers of the MANUFACTURERS' RECORD who apply and mention the paper. The table of contents include engines, boilers and pumps of every variety, a list of cheap second-hand machinery, fan blowers, tire benders and steam heating apparatus, prices, etc. The book also contains a great deal of useful information, such as would be appreciated by engineers and mechanics.

THE Wainwright Manufacturing Co., of Boston, report the following shipments of their feed-water heaters during the month of December: 5 in Boston; 1 each to Lowell, Lynn, Brockton, Woburn and Southboro, Mass.; Portland and Yarmouthville, Me.; Franklin, N. H.; New York city; Newark, N. J.; Pittsburgh, Pa.; Salem, Ohio; Chillicothe, Mo., and Louisville, Ky. The corrugated tube expansion joints made by this company are in demand, and they report recent shipments of same to Ware, Norwood and Fall River, Mass.; Providence, R. I.; Dunkirk, Cohoes and New York city; Atlanta, Ga., and Leavenworth, Kan.

THE following sales were made during December by the Babcock & Wilcox Co.:

	H. P.
Solvay Process Co., Syracuse, N. Y., 5th order.....	105
Wm. Weightman, Philadelphia, 2d order.....	330
C. B. Grubb & Son, Lancaster, (Henry Clay Furnace).....	240
J. & G. Fowler, N. Y., for Cuba, 2d order.....	146
Alex. Smith & Sons Carpet Co., Yonkers, 5th order.....	200
Glass-Edsel Paper Co., Delaware, Ohio, 2d order.....	136
Girard Estate, Philadelphia, 3d order.....	415
Midvale Steel Co., Nicetown, Phila., Pa., 2d order.....	270
Sone & Fleming Manufacturing Co., Limited, New York, 2d order.....	208
Geo. Bruce's Son & Co., N. Y., for Mexico, 2d order.....	92
South Bend Toy Manufacturing Co., South Bend, Ind., 2d order.....	136
James Simpson & Co., London, Eng.....	108
Walker Bros., London, Eng., for Ceylon, 6th order.....	15
Langworthy Bros., Salford, Eng.....	173
Inglo San Lino, Cienfuegos, Cuba.....	292
J. Simpson & Co., London, Eng., for Bourne mouth Gas & Water Co.....	109
Imperial Continental Gas Association, London, for Vienna Theater.....	744
Making a total of.....	3,724

THE M. C. Bullock Manufacturing Co., of Chicago, report the following list of important shipments: To the Looffholz Exploring & Mining Co., Norway, Mich., 1 Little Champion Diamond Drill, with complete prospecting outfit. To Moore & Agnew, Hurley, Wis., 1 6x8 Portable Hoisting Machine. To the Utica Hydraulic Cement Co., of Utica, Ill., 1 Eclipse Drill, with tunnel column. To the City of Spring Valley, Ill., 1 boiler and pump for the City Water Works. To the Stearns Lime Co., Chicago, 1 5-inch Eclipse Drill outfit. To the Spring Valley Coal Co., Spring Valley, Ill., 2 6-foot Lane's Patent Band Friction Hoisting Drum, connected and driven direct by a pair of 18x30 Link Motion Reversible Engines; also, 2 8-foot Wrought Iron Arm Sheaves.

COL. M. B. HILLIARD, of New Orleans, so well known to many of our readers, has formed a partnership with Mr. D. L. Mitchel, of that city, and established a real estate agency and loan and information bureau. They state in their circular that they will give "special attention to the developing of Southern industries, procuring money for promoting agricultural, mechanical and transportation interests, and imparting information to capitalists, as well as all seeking investments in Southern lands. Northern manufacturers and money lenders will find it to their advantage to confer with us, as well as all persons requiring information as to plants for cotton mills, sugar mills, saw and planing mills, foundries, car shops, creameries, canneries, tanneries, brick-making, etc., etc." Their list of references includes many of the foremost statesmen and business men of the South.

IRON VS. SLATE ROOFING.—Reference was made in your columns some time since regarding the removal of the slate roofing from the United States Quartermaster's depot at Jeffersonville, Ind., and the substitution of the Globe Standing Seam Iron Roofing, manufactured by the Globe Iron Roofing & Corrugating Co., of Cincinnati, Ohio. The question has been raised by several slate roofers why the slate was removed and iron substituted therefor. The following, received from the Globe Co., who received the contract and did the work there, will be of interest to roofers and others generally:

"The commission appointed to inquire into the condition of the slate roofing on the buildings of the United States Quartermaster's depot, at Jeffersonville, Ind., condemned the same as worthless, partly on account of the poor quality of the slate used, the insufficiency of the sheathing used on the roof, which was put 4 to 6 inches apart, and the exposed condition of the buildings, it being in the shape of a hollow square, being over 800 feet long and a total length of over a-half mile, requiring 100 tons of No. 24 roofing iron. On each side of the square were large openings for double doors, which admitted wind, and in case of storms caused the sheathing to give, the slate to crack and leak, and continued repairs were needed to keep the water out of the building. After careful investigation the committee concluded to remove the slate and recover the building with No. 24 Globe Standing Seam Iron Roofing, as being the most suitable, as well as the cheapest and best, and awarded the contract for the entire work to our company. After the work has had excellent tests, the committee are now unanimous in their verdict that they acted wisely and well in their selection and adoption of iron in preference to any other material offered."

## Philadelphia Trade Notes.

THE Energy Manufacturing Co. are about to place on the market a larger size of their excellent center grinder.

THE works of George W. Lord, No. 316 Union street, are being enlarged and improved to meet the demands for an increase of capacity. Mr. Lord manufactures a compound for the prevention of corrosion and scale formation in boilers.

THE Harrison Safety Boiler Works have orders ahead, and are confident of a prosperous year. Recent contracts are from the Lanneau Manufacturing Co., of Greenville, S. C., for a 50 horse-power boiler, and from C. C. Habernicht, of Columbia, S. C., for 120 horse-power.

## The Battle House.

THE tourist, pleasure seeker, as well as the commercial man, will find nowhere in the South so much progress in the culinary art as has been made in the city of Mobile during the past twenty years. For many years the Southern hotel keeper was contented with the frying pan and hog's lard for grease. Now everything is changed. The exchange of travel, thought and ideas between the two sections has been of much avail in the dietetic laws of life. In no public hostelry has the change been so marked as one will find in the Battle House, in the city of Mobile. To the able and judicious management of Mr. C. D. Barnes, a man thoroughly informed in the methods and requirements of the hour, is much due for the great progress made in this well-known hostelry. In other words, Mr. Barnes has instituted here in Mobile a modern first-class hotel, where the tourist, pleasure seeker and the commercial man will find all the requirements in the way of food, ease and comfort commensurate with the progress of the times. The table is most excellent, great care being bestowed in the selection of the food articles, and everything the market affords is to be found at the Battle House, excellently prepared, cooked and served in an appetizing manner. A due sense of the laws of hygiene and sanitation is strictly observed. Cleanliness pervades every nook and corner.

## Important.

WHEN visiting New York city, save baggage express and carriage hire, and stop at the Grand Union Hotel, opposite Grand Central Depot.

600 handsomely furnished rooms at \$1 and upwards per day. European plan. Elevators and all modern conveniences.

Restaurants supplied with the best. Horse cars, stages and elevated railroads to all depots. You can live better for less money at the Grand Union Hotel than any other first-class hotel in the city.

THE American House, Boston, is said to be the only transient hotel in that city (kept on the American plan) having running water in every chamber.

WHEN in Cincinnati, stop at the Palace Hotel. Rates, \$2.00 and \$2.50 per day; meals, 50 cents each. Elegant rooms; fine table, and centrally located.

THE St. Charles Hotel, at Lowell, Mass., kept by Geo. R. Cushing, is the place for comfortable entertainment. Travelers will do well to keep it in mind.

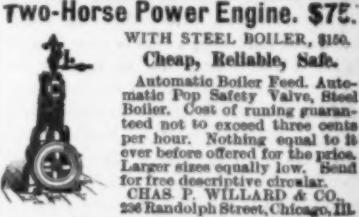
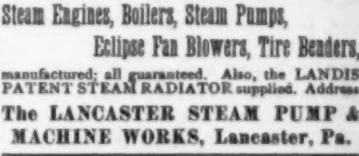
WESTPHAL'S IMPROVED REVOLVING SCREW, BOLT AND SHOT CASES. ADJUSTABLE FIRE BACKS AND LININGS FOR COOK STOVES. IRON STORM THRESHOLDS. SEND FOR ILLUSTRATED CIRCULARS. SCHENCK'S ADJUSTABLE FIRE BACK CO. 94 MARKET STREET, CHICAGO.

## Wanted!

A COMPETENT SALESMAN who thoroughly understands the mill and factory supply business to travel in the South and Southwest. State references and salary expected. Address W. G., CARE MANUFACTURERS' RECORD.

## Speed on Southern Railroads.

The Queen & Crescent Route, running trains from Cincinnati to New Orleans and Shreveport, La., and passing through Chattanooga, Birmingham, Tuscaloosa, Meridian, Jackson and Vicksburg, has, with its "Queen & Crescent Limited Express," reduced the time between Cincinnati and New Orleans (827 miles) to twenty-five and a half hours. This train leaves Cincinnati at 7:55 A. M., and arrives at New Orleans at 9:30 next morning.



## THE RICHMOND &amp; DANVILLE R. R.

The Piedmont Air Line the Favorite Route for the Tourist and Pleasure Seeker.

Traversing Sections of Country full of Historical Reminiscences, and over Mountains of Picturesque Beauty, and Through Valleys of Plenty and Repose.

[Special correspondence MANUFACTURERS' RECORD.]

ON THE ROAD, January 6, 1888.

Through the courtesy extended me by Mr. James L. Taylor, general passenger agent of the Piedmont Air Line, it was my good fortune to travel over this great system in that leisurely manner by which I could note in detail the many interesting sights and scenes which this popular line of railway affords all who are in search of recreation and pleasure.

Leaving the capital on the fast mail train, made up of first-class coaches, with all the improvements of the day, showing the splendid service of this line, it was not long before the "iron horse" crossed the historical Potomac; thence on at a rapid rate through the fertile valleys and undulating hills of old Virginia. Here, on this side, the wearing furrows of the great conflict between the States; on the other side, the crumbling breastworks of the two armies who faced each other for many weary months. On through hill and dale, until the everlasting spurs of the picturesque Blue Ridge loomed up in the distance. Now and then stops were made to refresh the "iron horse," and the passing moments spent in recalling the names of the places along the route which figure in the histories of to-day as important points during the civil war. Here is Charlottesville, a delightful stopping place, where an appetizing and refreshing lunch is served, with native wines which may be had for the asking. Over in the distance is the home of Jefferson—Monticello—storm-stained, battered, and dim with the shades of the past. As the train moves along hidden beauties of mountain and valley present themselves through the clear and brisk atmosphere. Sparkling streams rush down the hills into the fields below. Festivals of grandeur are the sylvan scenes that come and go like a revolving kaleidoscope. Soon Lynchburg is reached—the Lowell of the State. The historical James river is crossed over a substantial bridge, and the furnace fires, the smoke from tobacco factories, and the din and noise of many industries give evidence of thrifit and enterprise. At an altitude of 575 feet the scenery along the river is bold and picturesque. Off in the distance, and directly to the right, looms up the Peaks of the Otter, which remind one of Mt. Pisgah, in Western North Carolina. Then Danville, after a few hours' ride, comes prominently in view, world-famed for its bright leaf tobacco, and the reputation of its market for this commodity, it being the second largest leaf tobacco market in the United States. The spires of its churches, and the imposing architecture of its public buildings, are noted with evident pride and pleasure. Wonderful indeed is the transition from the descent of the everlasting hills to the valleys below—up there the invigorating breezes from the mountain tops; down here the tempered winds from the plains below. At every revolution of the car wheel, as it would appear, the change is wonderful, gratifying and full of pleasing emotion. After a short pull the State line of North Carolina is reached—from the Old Dominion to the old North State in a bound. How changed the mode of travel now in comparison to what it was only a few years ago. "Quick transit; safe speed; good accommodations and polite attention" is the prevailing motto of the Piedmont Air Line. To General Manager Thomas and to Mr. James L. Taylor is due great

credit for improvements. If ever a man was originally intended for a railroad man in the broad, liberal sense of the term it is Jas. L. Taylor. Besides being a polished and cultured gentleman of the old school, he is eminently progressive, and has an individuality of character which has gained him a well-earned reputation as a competent, able and judicious railway official.

Greensboro is the next station of importance. Here is a typical North Carolina town pushing forward in the industrial methods of the hour, full of pluck and energy. Then Salisbury, a typical town where the simple and passive ways and manners of the people have left an impress for generations past. Here was stationed the old Confederate prison and the Confederate States arsenal; as the train moves on the National Cemetery where sleep many thousand of the Federal soldiers is passed. Here the passenger changes cars for the mountains of Western North Carolina, taking a branch road of this great system, into the "Land of the Skies," and connecting with the East Tennessee, Virginia & Georgia system. The romancer's pen and the artist's pencil have often portrayed with equal beauty the scenery of Western North Carolina. But to realize the beauty and grandeur of this mountain section it must be visited. There, among the everlasting sentinels of God's great handiwork, is to be found repose. It is there that the majestic forests seem to have

"A harp for every wind,  
A voice for every sky."

Asheville, the great winter sanitarium and summer resort, is the Mecca for many. Its fine hotels, bracing climate and pure water invite the weary, worn out and broken down to come and rest and recuperate.

From Salisbury, Charlotte is soon reached, where much enterprise and go-aheaditiveness is to be seen. Just a few minutes walk up to the top of yonder hill is where the first Declaration of American Independence was declared. Looking down the main street from this hill one will observe a typical business town. Here and there are evidences of thrifit and enterprise—new innovations, new methods and new departures. Leaving Charlotte behind, Columbia, S. C., is the next point of importance, where one may spend many moments in watching the old cotton fields of ante-bellum days, and sighing deeply from his heart for the days of small farms worked upon a paying basis. Columbia is a typical Southern city; picturesque and beautiful in all its surroundings. Elegant mansions, inviting lawns, wide streets and balmy air all greet you here; both the eye and the soul commune together in equal bliss and pleasure.

On to Aiken, the great winter resort of the South. How gradual has been the transformation from the blizzards of the North to the balmy air of the South. If ever nature intended a place where the afflicted from lung and throat diseases could retire and grow well again this, above all others, is the place marked out. Pure oxygenated air, balmy odors from the soothing pine, pure water, good hotels, dry climate all combine to make this the par-excellence of all places as a winter resort. These are but a few of the objective places for the tourist and the health-seeker traversed by this great railway system. Other places might be mentioned, but they will consume another article of much greater length and complete with details.

It is a fact that the Piedmont Air Line of to-day offers better accommodations, more expeditious travel and by far the most elegant and comfortable service in the mode and manner of travel than any other line running from the North southward. It is a genuine pleasure to travel by the Piedmont Air Line. A better view

can be had of resources, improvements and advantages of the Southland over this line, running as it does through nearly a half dozen States, than it is one's good fortune to see in traveling throughout the North over one of the great trunk lines.

In its equipment, its service and in its management the Piedmont Air Line stands out as a railway deserving of the patronage of a generous public who care to see the South of to day in her industrial methods and wonderful developments in comparison to what the country was a few years back, lying in stagnation and in sack-cloth and ashes. And for the tourist and health-seeker is this line of travel one of delightful anticipations, happy reckonings and fruitful with all the delights of sky and scenery which create new desires, new impulses and renewed feelings of health and pleasure.

H. A. H.

## Business Opportunity.

A well established and successful Planting Mill and Lumber business, centrally located. Profits \$3,500. Investment \$7,500. Established five years. Best of reasons given for selling. Apply immediately to GEO. S. MAY, Atlanta, Ga.

## Queen City Pattern Works.

ALEX. D. CUNNY,

132 & 134 E. Second Street, Cincinnati, O. Patterns made to order for Machinery, Stoves and Ornamental Work. Metal Letters made and kept in stock.

## CHAMPION BALING PRESSES.

Bale one to two tons. Uses no power on man door and beast.

Load 10 to 15 tons in car.

Continual Send for Circulars.

Address, Famous Manufact'g Co., Quincy, Ill.

## BRADLEY HANDY WAGON

The Best on Wheels. Light, strong, convenient and low priced. Handy to get in and out of. Handy for single horse or pair. Handy for one person or more. Handy for two persons or more. Send for Free Circular, "How to purchase direct from the manufacturer."

BRADLEY & CO., SYRACUSE, N. Y.

68 Murray St., N. Y., 52 S. Market St. Boston.

FOR SALE—SECOND-HAND

## Railway Equipment.

We offer the above at low prices for cash or on easy terms or Car Trust; or will exchange for good securities. Whether you wish to buy, sell or trade, it will pay you to write us for full particulars.

## THE NEW YORK EQUIPMENT CO.

Successors to Walkley & Co.

10 WALL STREET, NEW YORK.

JAMES IRVINE, Pres't. L. V. WALKLEY, Sec'y.

## FOR SALE.

## Second-Hand Machinery

One Gray & Wood Planer, made by the S. A. Wood's Machine Co.

One Six-Rolled 24-inch Planer and Matcher, Goodell & Waters.

One 20-inch Planer and Matcher, Frank & Co.

Two Sweepstakes Planers and Matchers, Rowley & Hermance.

Also a full line of new and improved wood-working Machines. Correspondence solicited.

Williamsport Machine Co., Limited,

Cor. West Third & West Streets, Williamsport, Pa.

## SELLING OUT.

We are offering our ENTIRE STOCK of

Machine Tools  
SHAFTING, &c.,

at prices below factory cost, preparatory to CLOSING OUR BUSINESS in February.

Send for our lists before purchasing your Tools elsewhere, and save money.

## FRASER &amp; ARCHER,

121 Chambers Street,

NEW YORK.

## FOR SALE CHEAP.

One No. 0 Buffalo Forge, with water tank for power; new.

One No. 1 Keystone Forge; second hand.

One No. 2. Delamater Pressure Pumps, 1-inch suction, 1/4-inch discharge; new.

One No. 5 Blake Pressure Pump, 3/4-inch suction, 9-inch discharge; second hand.

One Power Boiler Plate Punch, punches 3/4-inch hole; second hand.

One 32-in. by 32-in. by 9 ft. Bed Planer; second hand.

One 12-inch Shaper, New Haven Co.'s make; used one month.

Complete Steam Laundry Outfit; used 3 months.

One No. 6 Friedman Injector.

One 4-h. p. Lawson Gas Engine.

One Combined Engine and Boiler, 3 horse power.

One 4-horse power Vertical Engine.

One 5-horse power Vertical Engine.

One 8-horse power Vertical Engine.

One 12-horse power Vertical Marine Engine.

One 15-horse power Horizontal Engine and Boiler.

One 25-h. p. Portable Engine and Boiler, on skids.

One 8-horse power Horizontal Engine and Vertical Boiler combined.

One 8-horse power Yacht Boiler.

One 12-horse power Vertical Boiler.

One 15-h. p. Vertical Boiler, with submerged tubes.

One 50-horse power Stationary Tubular Boiler.

One 50 to 60-horse power Automatic Engine.

One lot of Gold Min'g Mach'y; used but a short time.

One latest patent Quilter; second hand.

One Reeder and Lapper; second hand.

One 28-inch Picker; second hand.

Four 32-inch Cotton Cards; second hand.

MACHINIST AND MILL SUPPLIES.

## WM. C. CODD,

2010 and 2012 Aliceanna Street,

BALTIMORE, MD.

## Second-hand Machinery in Good Order.

## FOR SALE CHEAP.

Engine Lathe, 30 in. x 20 ft.

Engine Lathe, 26 in. x 24 ft. Triple Geared.

" 36 in. x 24 ft. 1 Engine Lathe 18 in. x 8 ft.

" each 24 in. x 20 in. and 24 ft.

" 24 in. x 12 ft. bed. Fifield.

" 3 in. x 25 ft.

" 24 in. x 15 and 16 ft.

" 28 in. x 20 ft.

" 28 in. x 10 and 12 ft.

each 16 in. 6 ft. 8 and 10 ft.

6 " 14 in. x 6 ft.

24 in. x 5 ft.

4 " 15 in. x 6 ft.

4 " 15 in. x 4 ft. and 5 ft.

2 " 10 in. x 3 1/2 ft. Foot power.

Axle Lathe. Bement & Son.

Brass Turret Lathe.

ca. Planer, 24 in. x 24 in. x 5 and 8 ft.

ca. Planer, 36 in. x 24 in. x 9 ft.

" 34 in. x 28 in. x 11 ft.

Shaper, 4-in. stroke. 1 1/2-in. Shaper, two tables.

each 12, 15, 20 and 28 in. stroke.

Crank Planer. 6 Lincoln Pat. No. 2 Millers.

each 3 and 6 Spindle Gang Drill.

each 3 and 6 Screw Machines. Wire Feed.

Pratt & Whitney. Good as new.

375-lb. Drop Hammer. Beecher & Peck.

60-lb. Vertical Hammer.

No. 53 Ferracute Press. Nut-Facing Machine.

Foot Presses, assorted. 8 Power Presses, assorted.

Punching and Shearing Machines, assorted.

Return Tubular Boilers, 35 H.-P.

National Bolt Cutter, sizes, 1/8 in. to 1 in.

Bolt Cutter, Sizes, 1/8 in. to 1 in. included. Wm. Sellers & Co.

each Nov. 2 & 3 Garvin Hand Millers. Good as new.

Horizontal Engine each 25 and 45 H.-P.

ea. 4 and 8 H. P. Portable Engine.

Slotted 13-in. stroke.

48-in. Boring and Turning Mill. Pond.

2-Spindle Profiling Machine.

Horizontal Boring Machine, 36 in. x 6 ft.

No. 3 1/2 Stiles & Parker Presses.

Also full line of New Machinery.

New York Agency TAYLOR MFG. CO., Engines, Boilers, &c. Correspondence solicited.

PRENTISS TOOL AND SUPPLY CO., P. O. Box 3160. No. 42 Day St., New York City.

BERNHARD DIEZ. Manufacturers of Printers' Rollers, and Roller Composition. Factory, cor. Light and Mercer streets, Baltimore. Prices: Composition (bulk) 30 cents per lb.; for Casting, also, 30 cents per lb. Orders by Mail promptly attended to.

# Stilwell's Patent HEATER AND FILTER Combined.

Lime  
Extracting

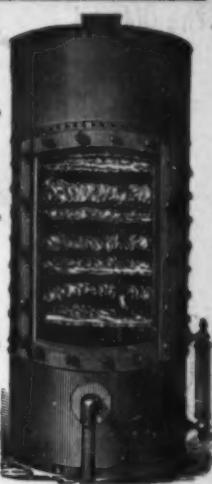
The Only Lime Extracting Heater That Will Prevent Scale in Steam Boilers.

Removing all impurities from the water before it enters the boiler.

Thoroughly Tested.

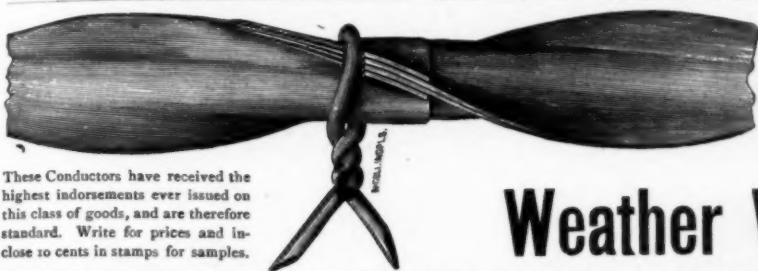
Over 3,000 of Them in Daily Use.

This cut is a facsimile of the appearance of a No. 5 Heater at work on ordinary lime water, when the door was removed after the Heater had been running two weeks. 



STILWELL & BIERCE MFG. CO., DAYTON, O.

ESTABLISHED 1850.



These Conductors have received the highest indorsements ever issued on this class of goods, and are therefore standard. Write for prices and inclose 10 cents in stamps for samples.



To the Stove and Hardware Trade:

THE LIGHTNING ROD TRADE has undergone a change in the past few years. Formerly men with wagons traveled over the country, but now these men have almost disappeared. The business of erecting rods on houses has passed into the hands of tinsers, hardwaremen and builders, and we simply manufacture them at wholesale for this class of dealers. The people in each locality prefer patronizing a home firm, and you can just as well sell them their Lightning Conductors at the same time you are doing the tin or roofing work. We furnish printed directions, so that any one can put them up without difficulty. We also manufacture all kinds of

## Weather Vanes, Glass Balls, &c.

MUNSON LIGHTNING CONDUCTOR CO., Indianapolis, Ind.

Special attention given to developing Southern industries, procuring money for promoting Agricultural, Mechanical and Transportation interests, and imparting information to capitalists, as well as all seeking investments in Southern lands.

Northern manufacturers and money lenders will find it to their advantage to confer with us, as well as all persons requiring information as to plants for Cotton Mills, Sugar Mills, Saw and Planing Mills, Foundries, Car Shops, Creameries, Canneries, Tanneries, Brickmaking, etc., etc.

D. L. MITCHEL.

M. B. HILLYARD.

**D. L. MITCHEL & CO.**  
Real Estate,  
Loan and Information Bureau,

59 Carondelet Street, New Orleans, La., U. S. A.

REFERENCES.  
Right. Rev. Hugh Miller Thompson, D. D.; Bishop J. C. Keener, D. D.; Rev. B. M. Palmer, D. D.; Rev. L. L. Leacht; Hon. R. L. Gibson, Senator U. S.; Hon. E. J. Gay, Representative U. S.; Hon. Louis Bush, of Bush & Leverett; Col. Wm. Preston Johnston, President of Tulane University; H. Dudley Coleman, Esq., President of Chamber of Commerce; Isidore Newman, Esq., President of Stock Exchange; R. M. Walmsley, Esq., President of Cotton Exchange; Joseph C. Morris, Esq., President of Canal Bank; Albert Baldwin, Esq., President of N. O. National Bank; Geo. Q. Whitney, Esq., of Whitney National Bank; Generals E. C. Walhall and J. T. George, U. S. Senators for Miss.; Hon. H. L. Muldrow, Asst. Sec'y Interior; Gen. S. D. Lee, Mississippi.

## FOR SALE.

1 36-in. 1 Beater Breaker Lapper.  
1 36-in. 1 Beater Finisher Evener.  
1 36-in. 3 Beater Kitson, with prepairo.  
3 36-in. 3 Beater, Whiting's.  
5 36-in. 2 & 3 Beater, Whiting's.  
5 36-in. 2 & 3 Beater, Whiting's.  
50 36-in. Welman Striper, Whiting's Cards.  
50 36-in. Welman Stripper, Saco Water Power.  
80 36-in. Welman Stripper, Whiting's.

20 12-6, 10-5, 9-4 1/2 Slubber's, different makes.  
25 7 1-3/4, 6-3 Spedders.  
100 Spinning Frames, 1 1/2 in., 1 3/4 in., 2 in. & 2 1/2 Ring, common, Spindle Taper, Rabbit Sawyer Spindle.  
50 Twisters, 1 1/2 in., 1 3/4 in., 2 in., 2 1/2, 2 1/2 in., 3 in., 3 1/2 Ring.  
50 Spoolers of different makes.  
16 Carpenter Reels.

All this machinery is first-class. For further particulars apply to

**I. GODFREY & CO.**  
PROVIDENCE, R. I.



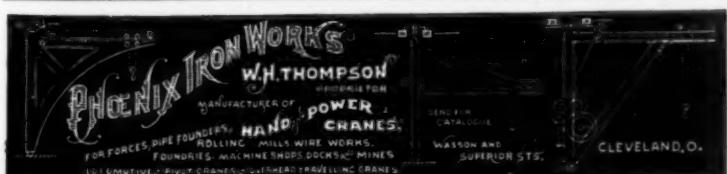
**HYDRAULIC JACKS.**

BEST IMPROVEMENTS. MOST STYLES.

Hydraulic Presses, Hydraulic Pumps, Valves & Fittings,  
Vreeland's Transfer Jacks, Hydraulic and Screw Punches,  
LEVER PUNCHES and SHEARS.

**WATSON & STILLMAN**

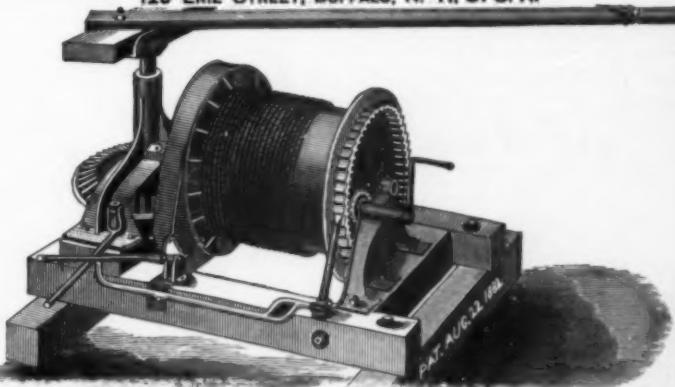
—210 E. 43d Street, NEW YORK.—



**Shafting, Hangers.**  
JNO. N. MARQUETTE, 118 W. Falls Ave. { BALTIMORE, MD.

Buy "THE NEW SOUTH." HANDSOMELY BOUND IN CLOTH. PRICE, \$2.50.

**THE CONTRACTORS' PLANT MANFG. CO.**  
120 ERIE STREET, BUFFALO, N. Y., U. S. A.



The illustration represents a Horse-Power Hoisting Whim. It is designed for mining purposes or raising coal or water out of a shaft. It will raise a bucket or weight weighing seven hundred pounds seventy-five feet per minute. The machine is made entirely of iron and steel excepting the sills, and is not affected by dry or wet climates. The hoisting drum is under complete control of the man at the shaft, landing the bucket by operating the levers at hand, and by which means the drum can be thrown in and out of gear at will when the horse is in motion, or the bucket lowered by the brakes as safely and conveniently as by a steam power hoist. No chutes to throw out or lay down. The drum will carry 500 feet or more of steel wire rope. The machine is **SMALL, LIGHT, EASILY HANDLED** and **DURABLE**, sufficiently strong to do the desired work, and so perfectly simple that it can be readily understood by any miner or person inexperienced with machinery. There is a safety attachment on the end of drum in case of an accident, the dog always being in gear when the bucket is being raised. Easily transported; can be made in sections small enough for rail-back transportation if desired.

We Also Manufacture Horse-Power Hoist for Railway Contractors, Bridge Builders and Quarrymen.

Correspondence Solicited. Illustrated Catalogue furnished on application. Mention this paper when you write.

**FORSTER'S STONE AND IRON ORE BREAKER**  
VERY SIMPLE AND VERY DURABLE.  
For Mining, Blast Furnaces, Iron and Steel Works, Railroad Ballast, and Macadam.

Lever moves horizontally, can be operated with horse, mule, water or steam power. Owing to Great Gain in Lever-age, we do the work of other Crushers with one third the power and one half the weight; and as we crush twice in a revolution, where other Crushers act but once, we do double the quantity. In Fine Crushing for Stamps, Burs, or Finish-Mills, we can do more and finer work than has ever been attempted. For prices and testimonials, address

**TOTTEN & CO.** Rolling Mill and Heavy Machinery Founders, PITTSBURGH, PA.

View when Ready for Work.

MANUFACTURERS' RECORD CO. Publishers Baltimore Maryland.

"The Old and Only Reliable." LATEST IMPROVED FORT WAYNE

## Western Washer.

SOLD ENTIRELY ON ITS MERITS.

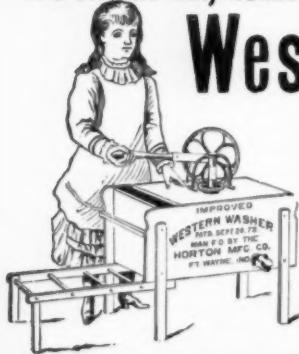
We have furnished these machines to an appreciating public for the past twelve years, during which time the demand for them has increased steadily and rapidly.

Each Machine is Warranted to give Perfect Satisfaction.

We want this machine represented in every city and town, and will give liberal discounts to dealers or agents and will guarantee the sale and satisfaction of them. Price, No. 1, Family Size, \$8; No. 2, Large Family, \$9; No. 3, Hotel Size, \$10. Write for catalogue and terms to

THE HORTON MANUFACTURING CO.

FORT WAYNE, IND., U. S. A.



ARCHITECTURAL

## Sheet Metal Work

ORNAMENTS, STATUARY,  
And SPUNWORK IN

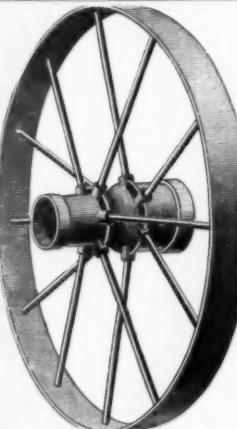
### BRASS, COPPER & ZINC

Galvanized Iron Cornices,  
Window Caps, Finials, Etc

—Manufactured by—

BAKEWELL & MULLINS, Salem, O.

Catalogue sent on  
Application.



### THE QUINCY Metal Wheels

FOR ALL PURPOSES.

Conceded the best, and used by the leading manufacturers in the United States. The only Wheel in which the spokes are connected to other parts of the Wheel with enlarged tenons, formed in place by heavy pressure and while cold. Send for descriptive catalogue, and mention this paper.

Quincy Metal Wheel Co.  
QUINCY, ILL.



THE HOWELL PATENT  
Suspension Iron and Steel

## WHEEL.

FOR

Wheelbarrows, Trucks, etc.  
Lightest, Strongest and  
Cheapest Wheel in  
the Market

Based on new and scientific  
principles. Highly endorsed.  
Write for description and  
prices to the

HOWELL WHEEL CO.  
COVINGTON, KY.

Mention this paper.



## D. SAUNDERS' SONS

MANUFACTURERS OF

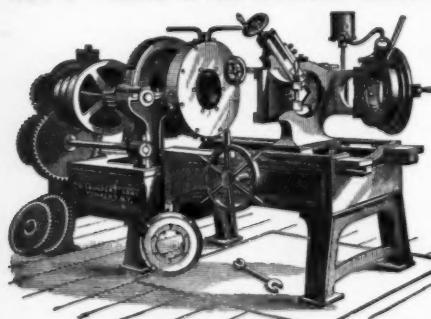
Pipe Cutting and  
Threading Machines,  
For Pipe Mill and Steam  
Fitters' Use.

Tapping Machines

For Steam Fitting. Also,

STEAM AND GAS FITTERS  
HAND TOOLS,  
Atherton Street.  
Send for Catalogue B.

YONKERS, N. Y.



BEND FOR CIRCULARS.

## CHICAGO CAR MOVER.

With it One Man Can Move a Loaded Car.

WEIGHT, INCLUDING HANDLE, 15 lbs

Guaranteed not to break or get out of order.  
Sent on 30 days' trial. If not satisfactory may be returned at my expense.

Price: Single Movers \$6; per Pair \$10.

Address

J. H. BANNON, Manufact'r,  
122 W. Madison St., Chicago, Ill.



## Horse and Mule Jewelry,

Consisting of COVERT'S PATENT SNAPS,

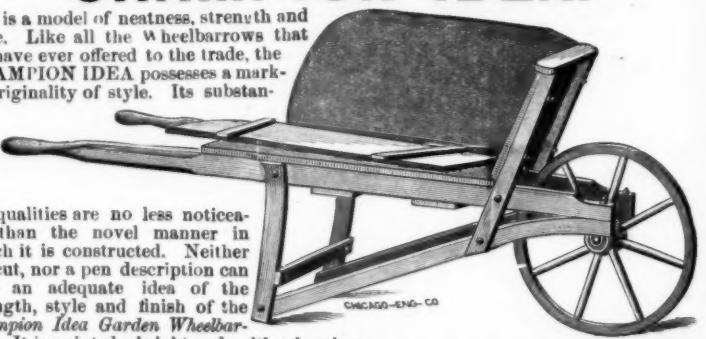
—Chain and Web Goods.—

These goods have become standard with the trade, and are sold by all the leading Jobbers in General and Saddlery Hardware in the United States at manufacturers' prices.

## Covert Manufacturing Co. West Troy, N.Y.

## CHAMPION IDEA.

It is a model of neatness, strength and style. Like all the wheelbarrows that we have ever offered to the trade, the CHAMPION IDEA possesses a marked originality of style. Its substan-



tial qualities are no less noticeable than the novel manner in which it is constructed. Neither the cut, nor a pen description can give an adequate idea of the strength, style and finish of the Champion Idea Garden Wheelbarrow. It is painted a bright red, with trimmings.

BRYAN MFG. CO., Bryan, Ohio.



G.A. CROSBY  
Manufacturers of  
PRESSES, DIES  
FOR AND  
SPECIAL MACHINERY  
SHEET METAL WORKERS  
259, 261 & 263 Randolph St., Chicago, Ill.

## NIAGARA STAMPING & TOOL CO.

BUFFALO, N. Y.



MANUFACTURERS OF

FOOT AND POWER SHEARING MACHINERY

AND

Presses and Dies for Working  
Sheet Metal.

Power Chopping Shears for Nail and Tack  
Plates, and for Cutting Steel for Cutlery,  
etc., Works.

Tinners' Machines  
AND TOOLS OF ALL KINDS.

Corrugating and Curving Rolls for Roofing, Siding and Ceiling. Squaring, Circle, and Hand Shears. Send for our complete illustrated Catalogue and Price List, and Mention this paper.

## BELLOWs,

Stationary Forges, Tuyers.

The Stationary Forge can be made of any size, with the bellows underneath in circular form, and is more effective than a much larger size of the ordinary bellows, and having bellows and forge combined, makes a durable and convenient forge for any and all kinds of blacksmithing, and the blast is continuous and positive.

T. H. Bullock Bellows & Forge Co., Cleveland, Ohio.

Henry Leschen, President. Edward M. Vossler, Vice-President. John A. Leschen, Sec'y and Treas.

## A. LESCHEN & SONS ROPE CO.

MANUFACTURERS OF



STEEL  
WIRE ROPE

IRON

903 & 905 N. Main Street.

ST. LOUIS, MO.

## → HARDWARE. ←

Baltimore WHOLESALE Prices.

ANVILS.	
Eagle and Vulcan	dis 10 c. dis 50 c.
Wright's	95 c
Armitage's Mouse Hole	95 c
Trenton	100 c
Wilkinson's	100 c

## AUGERS AND BITS.

Conn. Valley Mfg. Co.	extra, 50c to 5
Douglas Mfg. Co.	No. 1, 50c to 5
Long. & Douglass Mfg. Co.	dis 50c to 5
Griswold	dis 50c to 5
Patent Solid Head	dis 50c to 5
Russell Jennings' Anger, Dowall, Machine	dis 50c to 5
Dowell and Hand Rail Bits	dis 50c to 5
Ives' " Jennings" Bits	dis 50c to 5
Expansive Bits, Clark's small, 50c; large, 50c	dis 50c to 5
Expansive Bits, Ives'	dis 45 c
Expansive Bits, Blake's	dis 45 c
Hollow Augers, Ives'	dis 25c to 5
Hollow Augers, Douglass'	dis 25c to 5
Hol. Aug., Bonney's Adjust	dis 50c to 5
Hol. Aug., Stearns' Adjust	dis 50c to 5
Hol. Aug., Ives' Expansive, each 50c, dis 50c to 5	dis 50c to 5
Hol. Aug., Universal Expansive, each 50c, dis 50c to 5	dis 50c to 5
Wood's	dis 50c to 5
Gimlet Bits	50c to 5 gross
Gimlet Bits, Diamond	50c to 5 gross
Double Cut Gimlet Bits, Shepherdson's	dis 40 c
Double Cut Gimlet Bits, Douglass'	dis 40 c
Double Cut Gimlet Bits, Ives'	dis 40c to 5
Morse's Bit Stock Drill	dis 50c to 5
L'Hommedieu's Ship Augers	dis 50c to 5

## AWL HAPTS.

Sewing Brass Ferrule	50c to 5 gross
Patent Sewing, Short	50c to 5 gross
Patent Sewing, Long	50c to 5 gross
Patent Peg, Plain Top	50c to 5 gross
Patent Peg, Leather Top	50c to 5 gross

## AWLS, BRAD SETS, &amp;c.

Aws, Sewing, Common	dis 50c to 5
Aws, Shouldered Peg	dis 45 c to 40 c
Aws, Patent Peg	35 c
Aws, Shouldered Brad	50c to 5 gross
Aws, Handled Brad	50c to 5 gross
Brad Sets, Aiken's	50c to 5 gross
Brad Sets, No. 43, 50c to 50c	50c to 5 gross
Brad Sets, Stanley's Exc.	No. 1, 50c to 50c
Brad Sets, Stanley's Exc.	No. 2, 50c to 50c
Brad Sets, Stanley's Exc.	No. 3, 50c to 50c
Brad Sets, Stanley's Exc.	No. 4, 50c to 50c

## AXLE.

Collins & Co., Iron	50c to 50c; beveled, 50c to 50c
Lippincott or Mann's	
Single Bit, 4 1/2 to 5 1/2 and under	50c to 50c
Single Bit, 5 1/2 to 6 and over	50c to 50c
Single Bit, beveled	50c to 50c
Double Bit, 4 1/2 to 5 1/2 and under	50c to 50c
Double Bit, 5 1/2 to 6 and over	50c to 50c
Double Bit, beveled	50c to 50c
Second quality Axles	75 cts less than above

## AXLES.

Sheldon & Co., Iron	50c to 50c
" steel	50c to 50c
AXLE GREASE—Fraser's	dis 50c to 50c

## BALANCES.

Spring Balance	dis 50c to 50c
----------------	----------------

## BELLS.

Hand, Light Brass	dis 50c to 50c
Hand, White Metal	dis 50c to 50c
Hand, Silver Unison	dis 50c to 50c
Hand, Glass (Cone's Patent)	dis 50c to 50c
Gong, Abbe's	dis 50c to 50c
Gong, Yankee	dis 50c to 50c
Gong, Bartons'	dis 50c to 50c
Leon Reading	dis 50c to 50c
Pull, Brax's	dis 50c to 50c
Crank, Taylor's	dis 50c to 50c
Lever, Sargent's	dis 50c to 50c
Blow-mold	dis 50c to 50c
Lever, R. & E. M. Co.	dis 50c to 50c
Call	dis 50c to 50c
Cow, Common Wrought	dis 50c to 50c
Cow, Western, Sargent's List	dis 50c to 50c
Cow, Kentucky, Sargent's List	dis 50c to 50c
Cow, Moore's or Dodge's, Gemini, Ky., new list:	dis 50c to 50c
Nos. 0 1 1 1/2 2 3 3 5 5 6 Hog	dis 50c to 50c
50c to 50c	50c to 50c
Cow, Texas "Star"	dis 50c to 50c

## BELLows.

Blacksmith's Common	dis 50c to 50c
Molder's	dis 50c to 50c
Han Bellows	dis 50c to 50c

## BLIND FASTENERS.

Francis	dis 50c to 50c
Mackrell's	50c to 50c
Van Sand's Screw Pattern	50c to 50c
Van Sand's Old Pattern	50c to 50c
Merriman's	50c to 50c
Zimmerman's, 10M in.	50c to 50c
Zimmerman's, 9 in.	50c to 50c

## BLIND STAPLES.

Barbed, 1/4 in. and larger	50c to 50c
Barbed, 3/4 in.	50c to 50c

## BLOCKS.

Penfield Blocks	dis 50c to 50c
Bagnall & Loud	dis 50c to 50c

## BOLTS.

Cast Iron Barrel Shutter, &c.	dis 50c to 50c
Cast Iron Chain (Sargent's list)	dis 50c to 50c
Wrought Barrels	dis 50c to 50c
Wrought Square	dis 50c to 50c
Wrt. Shutter, all Iron, Stanley's list	dis 50c to 50c
Wrt. Shutter, Brass Knob, Stanley's list	dis 50c to 50c
Wrought Shutter, Sargent's list	dis 50c to 50c
Wrought Sunk Flush, Sargent's	dis 50c to 50c
Wrought Sunk Flush, Stanley's	dis 50c to 50c
Wrought B. K. Flush, Stanley's	dis 50c to 50c
Carriage and Tire, Common new list	dis 50c to 50c
Carriage and Tire, Philadelphia Pattern	dis 50c to 50c
Carriage Bolt, Clark's	dis 50c to 50c
Norway	dis 50c to 50c
R. B. & W. Carriage (old list)	dis 50c to 50c
Tire, American Screw Co.'s, Phila	dis 50c to 50c
Tire, " Bay State "	dis 50c to 50c
Eagle Philadelphia Tire Bolt	dis 50c to 50c
Stove	dis 50c to 50c
Flow	dis 50c to 50c
Machine	dis 50c to 50c
Bolt Ends and Lag Screws	dis 50c to 50c

## BORING MACHINES—WITHOUT AUGERS.

Sweet & Clark upright, 20 angular	dis 50c to 50c
Lawrence	dis 50c to 50c
Widder	dis 50c to 50c

## The Salem Wire Nail Co., Salem, O.



CHAS. B. MELISH, Agent for the South,  
NO. 4 WIGGINS BLOCK, CINCINNATI, O.

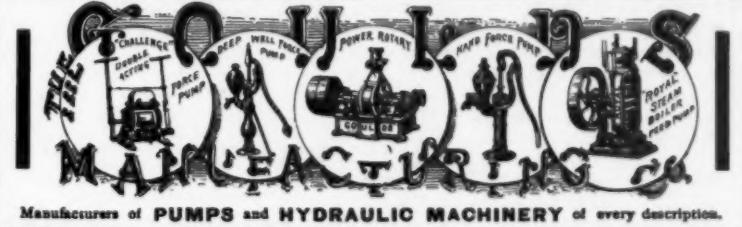
1874. CLEVELAND TWIST DRILL CO. 1888.



STAY BOLT TAPS. REAMERS. TWIST DRILLS.

28 and 29 West Street, Cleveland, Ohio.

18 Chambers Street, New York.



Manufacturers of PUMPS and HYDRAULIC MACHINERY of every description.

13-23 Ovid Street, Seneca Falls, N. Y. 60 Barclay Street, N. Y. Send for new No. 14 catalogue.

**MALIN & CO.**  
45 VIADUCT STREET, CLEVELAND, OHIO.

NEW YORK OFFICE, G. T. MOORE, 163 Chambers Street.

BOSTON OFFICE, JNO. WALES & CO., 5 Winthrop Sq.



Our New Illustrated Catalogue and Price-List for 1888

is now ready. We have added a number of very useful and salable articles to our list of HARDWARE SPECIALTIES and HOUSEHOLD ARTICLES. We want a live Agent in every Southern City and Town. Write at once for terms and full information to

The F. F. ADAMS COMPANY, Erie, Pa., U. S. A.

Phillips, with Augers..... 50c

BRACKETS.

Shelf, plain..... dis 50c to 5

Shelf, fancy..... dis 50c to 5

BRIGHT WIRE GOODS.

New list..... dis 50c to 5

BULL BIRDS.

Unico Nut Co..... dis 50c to 5

Sargent's, & Co.'s..... dis 50c to 5

Humason, Buckley & Co.'s..... dis 50c to 5

Humason, Buckley & Co.'s..... dis 50c to 5

BUTTS.

Wrought Brass, Fast Joint..... dis 50c to 5

Cast Brass, Fast Joint..... dis 50c to 5

Fast Joint, Loose Joint..... dis 50c to 5

Fast Joint, Narrow..... dis 50c to 5

Fast Joint, Broad..... dis 50c to 5

Loose Joint, Broad..... dis 50c to 5

Loose Joint, Narrow..... dis 50c to 5

Fast Joint, Narrow..... dis 50c to 5

Fast Joint, Broad..... dis 50c to 5

Loose Joint, Broad..... dis 50c to 5

Loose Joint, Narrow..... dis 50c to 5

Fast Joint, Narrow..... dis 50c to 5

Fast Joint, Broad..... dis 50c to 5

Loose Joint, Broad..... dis 50c to 5

Loose Joint, Narrow..... dis 50c to 5

Fast Joint, Narrow..... dis 50c to 5

Fast Joint, Broad..... dis 50c to 5

Loose Joint, Broad..... dis 50c to 5

Loose Joint, Narrow..... dis 50c to 5

Fast Joint, Narrow..... dis 50c to 5

Fast Joint, Broad..... dis 50c to 5

Loose Joint, Broad..... dis 50c to 5

Loose Joint, Narrow..... dis 50c to 5

## THE MARKETS.

OFFICE MANUFACTURERS' RECORD, |  
BALTIMORE, Jan. 11, 1888.

Reports from the South indicate that there is an increasing activity in general business matters, and the outlook is favorable for a very heavy trade this spring. New industrial enterprises are rapidly getting into shape, and everything is bright and cheering.

Manufactured iron moves along with nothing of interest to note, trade continuing about the same. We quote:

Ref. Bar Iron, 1 to 62 $\frac{1}{2}$ to 1.	2.10@ 2.40c
" " 1 $\frac{1}{2}$ to 2, round and square.	2.10@ 2.40c
Hoop Iron, 1 $\frac{1}{2}$ wide and upward.	2.50@ 3 c
Band Iron, from 1 $\frac{1}{2}$ to 6 in. wide.	2.40@ 2.34c
Horseshoe Iron.	3 @ 34c
Norway Nail Rods.	3 @ 54c
Black Diamond Cast Steel.	8 @ 9 c
Machinery Steel.	3 @ 44c
Spring Steel.	34c @ 4 c
Common Horse Nails.	8 @ 9 c
Railroad Spikes, 54 $\frac{1}{2}$ x 16.	34c @ 3 c
Steel Boiler Plate.	34c @ 4 c
Iron Boiler Plate.	34c @ 4 c
Boiler Tubes.	54c off list

In pig iron the market remains practically unchanged, though the scarcity of fuel at many Pennsylvania furnaces must result in a considerable decrease in production. Steel rails are still quoted at \$32@33. A sale of 10,000 tons to the Marietta & North Georgia Railroad is reported. We quote:

Baltimore Charcoal Wheel Iron (all Baltimore ore).	50@ 39 50
Virginia C. B. Charcoal Wheel Iron.	52@ 39 50
Anthracite, No. 1.	50@ 39 50
" " 2.	50@ 39 50
" " 3.	50@ 39 50
" Mottled and White.	50@ 39 50
Old Rails.	50@ 39 50
Old Steel Rails.	50@ 39 50
No. 1 Wrought Scrap.	50@ 39 50
Old Car Wheels.	50@ 39 50

## HARDWARE.

But little activity is felt in trade circles as yet and few changes, except in special lines, have been reported thus far. Labor troubles are quite general in the North, and in some of the most prominent factories all the workmen are now out. This of course is a most unsatisfactory state of affairs, and while it lasts values will be uncertain and not characterized by that degree of firmness which at this time would have otherwise prevailed.

Nails are quoted as before—at \$2.10@ \$2.52, according to quantity.

## Philadelphia Iron Market.

PHILADELPHIA, Jan. 10, 1888.

Three furnaces have blown out at Pottsville, and before the week is out the number may be increased to a dozen at other points. The furnaces employ 150 men and turn out 100 tons per day. The steel works employ 500 men and have fuel enough on hand to run. The great agitation at this time is the fuel strike, and no one seems to know which way things are likely to go. The Wyoming miners may come out, the Clearfield miners threaten to come out on the 21st, and it is possible the trouble may extend even further. The Schuylkill valley rolling mills are running with bituminous coal, and nearly all of the 28 furnaces in that valley are getting coke. The intention is to run as long as prices can be realized with coke fuel. Already advances have been made of from 25 to 50 cents per ton on pig iron, and it is probable there will be a general advance. Several large sales have been made of both foundry and forge. Public opinion is decidedly on the side of the miners. The bar iron industry has not opened up very well as yet. Nearly all the mills are running, quite a number of them single turn, but spring orders have not generally been placed. Quotations are 1.90 to 2.10 for bars, 1.90 to 2cts. for skelp, 2.15 for plate and 3.15 for steel plate. Angles are 2.40, beams and channels 3.30. Very few foreign plates are arriving. A large amount of foreign material is still due on old contracts. Steel rails are dull at \$32 to \$33 at mill. Old rails are nominally \$21.50 to \$22.50 and no business. There is considerable feverishness in the iron market, owing to the uncertain outlook.

## Cincinnati Iron Market Report.

Specially reported by ROGERS, BROWN &amp; CO., Pig Iron Commission.

CINCINNATI, Jan. 9, 1888.

The feeling of the leading iron men at the close of the first week of the new year is that the market has gained strength, even though appearances are the other way. The main reason is that the sellers that have recently been so urgent and contributed to the late decline, have placed large orders on their books, and have changed from weakness to firmness. It is stated in well informed circles that the entire product of Southern furnaces in mill irons for the whole of the coming year has now been placed, with the exception of part of the make of two companies. This news will doubtless be a surprise to many who have looked for a deluge of cheap Southern mill irons as the year advances. The sales to pipe works and mills have been unprecedentedly large. Foundry irons are more plentiful. Many eyes are turned toward the deadlock between the railroads and the steel rail makers, and the belief gains that there will be as many steel rails made and sold this year as last, affording a foundation for a good market through the year. We quote for cash f. o. b. Cincinnati:

HOT-BLAST FOUNDRY.	
Ohio and Southern Strong Coke No. 1.	50@ 39 50
" " " No. 2.	50@ 39 50
" " " No. 3.	50@ 39 50
No. 1.	50@ 39 50
No. 2.	50@ 39 50
No. 3.	50@ 39 50
Ohio Soft Stonecool.	50@ 39 50
Ohio Soft Stonecool.	50@ 39 50
Mahoning and Shenango Valley Coke.	50@ 39 50
Hanging Rock Charcoal No. 1.	50@ 39 50
" " " No. 2.	50@ 39 50
Tennessee & Alabama Charcoal No. 1.	50@ 39 50
" " " No. 2.	50@ 39 50

FORGE.	
Strong Neutral Coke.	50@ 39 50
Mottled " "	50@ 39 50
Cold Shortnings.	50@ 39 50

CAR WHEEL AND MALLEABLE.	
Southern Car-Wheel Iron.	50@ 39 50
Hanging Rock Cold Blast, No. 1.	50@ 39 50
Hanging Rock Cold Blast, No. 2.	50@ 39 50
Lake Superior Malleable.	50@ 39 50

## Louisville Iron Market.

Specially reported by GRO. H. HULL &amp; CO., Commission Merchants for the sale of Hot and Cold Blast Pig Iron.

LOUISVILLE, KY., Jan. 9, 1888.

The market is very peculiar. There is a difference of views of \$2.50 between various makers of irons. There has been very heavy buying on all sides, owing largely to contracts that are being made at the beginning of the new year and to the fact that the prices at which some furnaces were willing to sell have seemed very low to iron buyers. There has been no cause for cutting the market in the way it has been done save a general feeling of distrust, which does not seem to be borne out by the business prospects of the coming year. Off colored irons, like silver gray and brights, that are being held by some furnaces at \$18, have been sold by others at \$16. The same is true of foundry irons. Car wheel grades are looking up a little. We quote:

PIG IRON.	
Southern Coke, No. 1 Foundry.	50@ 39 50
" " " 2.	50@ 39 50
" " " 3.	50@ 39 50
Hanging Rock Coke, No. 1 Foundry.	50@ 39 50
" Charcoal, No. 1 Foundry.	50@ 39 50
Southern Charcoal, No. 1 Foundry.	50@ 39 50
Silver Gray, different grades.	50@ 39 50
Southern Coke, No. 1 Mill, Neutral.	50@ 39 50
" " " 2.	50@ 39 50
" " " 3.	50@ 39 50
" " " Cold Short.	50@ 39 50
Southern Charcoal, No. 1 Mill.	50@ 39 50
White and Mottled, different grades.	50@ 39 50
Southern Car Wheel standard brands.	50@ 39 50
" " " other brands.	50@ 39 50
Hanging Rock Cold Blast.	50@ 39 50
" " " Warm.	50@ 39 50

## Chicago Iron Market.

Specially reported by ROGERS, BROWN &amp; CO. W. W. BACKMAN, Resident Agent.

CHICAGO, Jan. 9, 1888.

The waiting mood continues in this quarter so far as ordinary foundry irons are concerned, but in charcoal irons there is a firmer feeling and a disposition to take hold more liberally. Some good orders were placed during the week, and without any further concession in price, which is something as the market has been going. Sales

COMPASSES, DIVIDERS, &c.	
Compasses.	dis 70@ 10 5
Calipers.	dis 70@ 10 5
Dividers.	dis 70@ 10 5
Cook's Pencil.	dis 10 5
COFFEE TOOLS.	
Bradley's.	dis 15@ 30 5
Barton's.	dis 10 5
CROW BARS.	
Cast Steel.	50@ 34c
Iron, Steel Points.	50@ 34c
CURLING IRONS, &c.	
16, 36, 54 in., \$1.80, 3.00, 3.50.	dis 10 5
Curling Tong.	50@ 3.65, dis 10 5
Pinching Irons.	50@ 3.65, dis 10 5
CUTLERY COMB.	
Fitch's new list.	dis 50@ 10 5
Hotchkiss, Novelty, new list, July, 1880.	dis 25 5
Hotchkiss, Excelsior Superior Champion.	dis 25 5
Lawrence, "Perfect".	dis 25 5
Rubber.	dis 10 5
Sweet & Clarke.	dis 50@ 10 5
Lusters.	dis 25 5
CURTAIN PINS.	
Maydole's.	dis 25 5
Hartford Hammer Co.	dis 40@ 10 5
Worthington's, Tack Nos. 1, 2, 3, 1.50, 2.00 and 2.50.	dis 30@ 10 5
Warner & Noble's.	dis 30 5
Kip's or Selsor's.	dis 30 5
Verker & Plumb.	dis 40 5
HAMMERS.	
Maydole's.	dis 25 5
Hartford Hammer Co.	dis 40@ 10 5
Worthington's, Tack Nos. 1, 2, 3, 1.50, 2.00 and 2.50.	dis 30@ 10 5
Warner & Noble's.	dis 30 5
Kip's or Selsor's.	dis 30 5
Verker & Plumb.	dis 40 5
HARDFORCE HAMMER CO'S NEW LIST—	
Hammers.	dis 40@ 10 5
Sledges.	dis 40@ 10 5
Mason and Spallina Hammers, &c.	dis 60@ 10 5
HANDLES—Door or Thumb Latches.	dis 60@ 10 5
Nos. 1, 2, 3, 4.	dis 60@ 10 5
Per dor. 30@ 1.00 1.18 1.35 1.50.	dis 60@ 10 5
Roggins' Latches.	dis 35@ 40@ net
Bronze Iron Drop Latches.	dis 30@ 10@ net
Jap'd Store Door Handles—Nuts, \$1.62; Plate, 1.10; no Plate.	dis 30@ 10@ net
Barn Door.	dis 30@ 10@ net
Wrought Chest.	dis 60@ 10@ net
Surface Chest.	dis 55@ 10@ net
Flush Chest.	dis 55@ 10@ net
Lifting.	dis 55@ 10@ net
Saw and Plane.	dis 55@ 10@ net
Lippincott Cross-Cut Saw.	dis 30@ 10@ net
Hammer and Hatchet.	dis 25@ 10@ net
Brad Awl.	dis gross, \$0.00
Chisel, all kinds.	dis 50@ 10@ net
Auger, assorted, \$0 gross, \$5.00.	dis 40@ 5
Auger, large, \$0 gross, \$7.00.	dis 40@ 5
Patent Auger, 1 $\frac{1}{2}$ in.	dis 25@ 5
Patent Auger, Douglass.	dis set \$1.25 net
Patent Auger, Swan's.	dis set 1.00 net
HAMMOCK CHAIRS.	
White Mountain, per dor.	dis 27.00
" " " Finished in red, per dor.	dis 23.00
HANGERS.	
Cronk Hanger Co.—	
No. 4, per dor. pair.	dis 100@ 10 5
" 5, " " " pair.	dis 14.40 50@ 10 5
" 6, " " " pair.	dis 18.00 50@ 10 5
Iron Lad track.	dis 9 cents per foot, 50@ 10 5
Barn door stays.	dis 30@ 10@ net
Cronk's Pat. Wire Cutter and Bender, \$1 in.	dis 15.00 & 40@
Cronk's Pat. Wire Cutter and Bender, 10 in.	dis 15.00 & 40@
" " pair.	dis 21.00 & 40@
Barn Door, old patterns.	dis 60@ 10@ net
Barn Door, New England.	dis 60@ 10@ net
Climax (Anti-Friction).	dis 20@ 10@ net
Warner's.	dis 20@ 10@ net
Richard's.	dis 20@ 10@ net
Ridder.	dis 20@ 10@ net
Paragon.	dis 40@ 10@ net
Smith.	dis 40@ 10@ net
HATCHETS.	
Underhill's.	dis 40@ 10@ net
Price Solid Steel.	dis 60@ 10@ net
Shilling, Nos. 1, 2, 3.	dis 50@ 3.50 50@ 3.50
Claw, Nos. 1, 2, 3.	dis 7.75 8.00 8.25
Lathing.	dis 50@ 3.50 8.00 8.50
Hammond's new list.	dis 40@ 10@ net
Blood's.	dis 35@ 10@ net
Hunt's.	dis 40@ 10@ net
Russell's, low list.	dis 40@ 10@ net
HAY KNIVES.	
Gem.	dis 12.00
" Lightning".	dis 12.00
Wadsworth's.	dis 12.00
HINGES.	
Blind Hinges—	
Shepard's "Noiseless".	dis 75@ 10@ 5
(Nos. 50, 60, 65 and 35).	dis 75@ 10@ 5
Shepard's "Niagara" Gravity, (Nos. 1, 3, 5).	dis 8@ 5
" Buffalo" Gravity.	dis 50@ 12@ 5
" Champion" ".	dis 50@ 10@ 5
" Steamboat" Gravity, (No. 10).	dis 50@ 20@
Huffers.	dis 50@ 10@ 5
Standard.	dis 75@ 10@ 5
Standard Lull & Porter.	dis 70@ 10@ 5
Gate Hinges and Latches—	
Shepard's (Nos. 1, 2, 3, 10 and 20).	dis 60@ 10@ 5
Plate Hinges 18, 10@ 10 in.	dis 50@ 10@ 5
" Providence" 1 over 12.	dis 40@ 10@ 5
Screw Hook 8, 10, 12 in.	dis 40@ 10@ 5
Strap. 14 to 36 in.	dis 30@ 10@ 5
Crown spring hinges, for screen doors, dis 10@ 5; for solid doors, double action, dis 15@ 5; for solid doors, double action, dis 35@ 5.	
Crown Screen Door Latch.	dis gross 12.00, dis 35@ 5
Crown Christmas-Tree Holders, 2-in.	dis 35@ 5
" 3-in. 3-in.	dis 35@ 5
Bickford Portable Pump.	dis 60@ 10@ 5
American Cake Mixer, No. 6.	dis each 3.50, dis 20@ 10@ 5
American Tobacco Cutter.	dis 12.00, dis 30@ 5
A. M. Co. Clothes Wringer, No. 2 rolls, 10X14, 14X14, 18X18; No. 2 Japan 12.00 dor.; No. 2 Galv. 12.00 dor.; No. 2 Galv. 12.00.	
33.00 dor.	dis 30@ 10@ 5
Heavy Welded Hook 12@ 1 in. 37.50 100 lb. dis 100@ 10@ 5	
14 in. & up. 37.50 100 lb. dis 20@ 10@ 5	
16 in. & 1 in. 37.50 100 lb. dis 20@ 10@ 5	
Screw Hook and Eye.	dis 10@ 5
12 in. 35@ 5	
14 in. 35@ 5	
16 in. 35@ 5	
Wrought Strap & T list, Dec. 10, '77.	dis 60@ 5@ 5
Standard Spring Hinges, single and double action, dis. 60@ 10@ 5.	
HOES.	
Planters.	dis 60@ 10@ 5
Riveted Shank.	dis 50@ 10@ 5
Grub.	dis 60@ 10@ 5
Hick's Pat. Solid C. S. Planters.	dis 60@ 10@ 5
Hick's Pat. Solid C. S. Scovill Pattern.	dis 60@ 10@ 5
Hubbard, Bakewell & Co.	dis 60@ 10@ 5
HATCHES.	
Axe, Pick, Sledge, Hammer and Hatchet.	dis 33.50@
HORSE NAILS.	
Ausable: Nos. 5 6 7 8 9	

of Southern iron are reported from other points aggregating over 20,000 tons, and sellers of that class of iron are firmer; but buyers still believe they will provide for their wants at their own figures. Old wheels are scarce. We quote:

## COKE AND STONE COAL FOUNDRY.

Ohio (Hanging Rock) Softeners No. 1..	\$1 50@50
" Blackband "	\$1 50@50
" Jackson county "	\$1 50@50
" Lake ore and cinder "	\$1 50@50
Southern Coke, No. 2 ..	\$0 50@50
" No. 2½ ..	\$0 50@50
" No. 3 ..	\$0 50@50

## CHARCOAL FOUNDRY.

Lake Superior .....	\$0 50@50
Southern .....	\$1 50@50
Hanging Rock .....	\$0 50@50

## CAR WHEEL AND MALLEABLE

Lake Superior .....	\$1 50@50
Standard Southern .....	\$1 50@50
Hanging Rock, cold blast .....	\$0 50@50
" warm blast .....	\$4 50@50

## OLD MATERIALS

Old Rail, American .....	\$3 00@50
Old Wheels .....	\$0 50@50

## St. Louis Iron Market.

Specially reported by ROGERS, BROWN & CO., Gay Building, 204 N. 3rd street, St. Louis. W. H. SHIELDS, Manager.

ST. LOUIS, Jan. 9, 1888.

Considerable skirmishing and a light business has been the record of the week. Buyers still believe the tendency of the market is in their favor, and put off purchases accordingly. The annual stock taking also has a tendency to restrict business for the time. Southern charcoal irons have had a liberal sale recently, and Ohio softeners are again in some demand. The market on the whole has fully maintained its strength during the first week of the year, and we quote for cash as follows:

## CHARCOAL FOUNDRY.

Missouri .....	\$0 00@50
Southern .....	\$0 00@50

## COAL AND COKE PLUNDRY.

Southern .....	\$0 00@50
Ohio Softeners .....	\$1 00@50

## MILL IRONS.

Southern .....	\$7 00@18 00
CAR-WHEEL AND MALLEABLE IRON.	

Southern .....	\$0 00@24 00
Lake Superior .....	\$0 00@24 00

Connelville Coke, (East St. Lou's) .....	\$0 00@15
--	-----------

## Chattanooga Iron Market.

Specially reported by LOWE & TUCKER, Brokers and Commissioners.

CHATTANOOGA, TENN., Jan. 9, 1888.

The past week has developed an unusual inquiry for pig iron, and a number of large sales are reported and prices are evidently tending upward. Many inquiries are com-

ing from the Eastern States, and the prospect now prevails that this section will take largely of the Southern product; while the West is not believed in their inquiries for Southern metal. General business is remarkably good, considering the time of the year, and the prospects are good for a much increased trade as the spring approaches.

EVERY engineer should have beside him a box of "Dixon's American Graphite." It is the best anti-friction agent and preventive of a hot box that science has perfected. If your local dealer does not keep it, address JOS. DIXON CRUCIBLE CO., Jersey City, N. J.



## STEEL RAILS

COMPLETE OUT-FIT FOR  
Logging, Mining and Plantation

## RAIL AND TEAM ROADS.

Light Sections Rails and Spikes in stock.

## Locomotives, Logging Cars, etc.

## NEW AND SECOND HAND.

## HUMPHREYS &amp; SAYCE,

OFFICE NO. 1 BROADWAY, N. Y.

Look Carefully through this paper and you may find an advertisement of some machinery or other goods that you are in need of. Preserve this copy for future reference.

## The STANDARD TOOL CO.

Cleveland, Ohio.

## MANUFACTURERS OF

## INCREASE TWIST DRILLS, Etc.,

## TAPER SHANK DRILLS,

## Straight Shank Drills,

## MACHINE BIT DRILLS,

## Bit Stock Drills,

## SOCKETS,

TWIST DRILL GRINDING MACHINE  
New York Office, 33 Chambers St.

Hand and Shell REAMERS,  
Standard Gauges,  
Milling Cutters and Special Tools,  
MORSE TAPER REAMERS  
—Standard Patent—

Stebbins Patterned  
Stebbins Genuine  
Stebbins Tinned Ends  
Chase's Hard Metal  
Self-Measuring, (Enterprise)  
Lincoln's Pattern  
Weed's.

## WEAT CUTTERS.

American 3 A 4  
American, B. 50@50 \$7.00 \$10.00 \$12.00 \$15.00

Dixon's (P. S. & W.) Nos. 1 2 3 4  
" 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Perry's Nos. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Woodruff's (P. S. & W.) Nos. 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 399 400 401 402 403 404 405 406 407 408 409 409 410 411 412 413 414 415 416 417 418 419 419 420 421 422 423 424 425 426 427 428 429 429 430 431 432 433 434 435 436 437 438 439 439 440 441 442 443 444 445 446 447 448 449 449 450 451 452 453 454 455 456 457 458 459 459 460 461 462 463 464 465 466 467 468 469 469 470 471 472 473 474 475 476 477 478 479 479 480 481 482 483 484 485 486 487 487 488 489 489 490 491 492 493 494 495 495 496 497 497 498 498 499 499 500 500 501 502 503 503 504 505 505 506 506 507 507 508 508 509 509 510 510 511 511 512 512 513 513 514 514 515 515 516 516 517 517 518 518 519 519 520 520 521 521 522 522 523 523 524 524 525 525 526 526 527 527 528 528 529 529 530 530 531 531 532 532 533 533 534 534 535 535 536 536 537 537 538 538 539 539 540 540 541 541 542 542 543 543 544 544 545 545 546 546 547 547 548 548 549 549 550 550 551 551 552 552 553 553 554 554 555 555 556 556 557 557 558 558 559 559 560 560 561 561 562 562 563 563 564 564 565 565 566 566 567 567 568 568 569 569 570 570 571 571 572 572 573 573 574 574 575 575 576 576 577 577 578 578 579 579 580 580 581 581 582 582 583 583 584 584 585 585 586 586 587 587 588 588 589 589 590 590 591 591 592 592 593 593 594 594 595 595 596 596 597 597 598 598 599 599 600 600 601 601 602 602 603 603 604 604 605 605 606 606 607 607 608 608 609 609 610 610 611 611 612 612 613 613 614 614 615 615 616 616 617 617 618 618 619 619 620 620 621 621 622 622 623 623 624 624 625 625 626 626 627 627 628 628 629 629 630 630 631 631 632 632 633 633 634 634 635 635 636 636 637 637 638 638 639 639 640 640 641 641 642 642 643 643 644 644 645 645 646 646 647 647 648 648 649 649 650 650 651 651 652 652 653 653 654 654 655 655 656 656 657 657 658 658 659 659 660 660 661 661 662 662 663 663 664 664 665 665 666 666 667 667 668 668 669 669 670 670 671 671 672 672 673 673 674 674 675 675 676 676 677 677 678 678 679 679 680 680 681 681 682 682 683 683 684 684 685 685 686 686 687 687 688 688 689 689 690 690 691 691 692 692 693 693 694 694 695 695 696 696 697 697 698 698 699 699 700 700 701 701 702 702 703 703 704 704 705 705 706 706 707 707 708 708 709 709 710 710 711 711 712 712 713 713 714 714 715 715 716 716 717 717 718 718 719 719 720 720 721 721 722 722 723 723 724 724 725 725 726 726 727 727 728 728 729 729 730 730 731 731 732 732 733 733 734 734 735 735 736 736 737 737 738 738 739 739 740 740 741 741 742 742 743 743 744 744 745 745 746 746 747 747 748 748 749 749 750 750 751 751 752 752 753 753 754 754 755 755 756 756 757 757 758 758 759 759 760 760 761 761 762 762 763 763 764 764 765 765 766 766 767 767 768 768 769 769 770 770 771 771 772 772 773 773 774 774 775 775 776 776 777 777 778 778 779 779 780 780 781 781 782 782 783 783 784 784 785 785 786 786 787 787 788 788 789 789 790 790 791 791 792 792 793 793 794 794 795 795 796 796 797 797 798 798 799 799 800 800 801 801 802 802 803 803 804 804 805 805 806 806 807 807 808 808 809 809 810 810 811 811 812 812 813 813 814 814 815 815 816 816 817 817 818 818 819 819 820 820 821 821 822 822 823 823 824 824 825 825 826 826 827 827 828 828 829 829 830 830 831 831 832 832 833 833 834 834 835 835 836 836 837 837 838 838 839 839 840 840 841 841 842 842 843 843 844 844 845 845 846 846 847 847 848 848 849 849 850 850 851 851 852 852 853 853 854 854 855 855 856 856 857 857 858 858 859 859 860 860 861 861 862 862 863 863 864 864 865 865 866 866 867 867 868 868 869 869 870 870 871 871 872 872 873 873 874 874 875 875 876 876 877 877 878 878 879 879 880 880 881 881 882 882 883 883 884 884 885 885 886 886 887 887 888 888 889 889 890 890 891 891 892 892 893 893 894 894 895 895 896 896 897 897 898 898 899 899 900 900 901 901 902 902 903 903 904 904 905 905 906 906 907 907 908 908 909 909 910 910 911 911 912 912 913 913 914 914 915 915 916 916 917 917 918 918 919 919 920 920 921 921 922 922 923 923 924 924 925 925 926 926 927 927 928 928 929 929 930 930 931 931 932 932 933 933 934 934 935 935 936 936 937 937 938

## MANUFACTURERS' RECORD.

**SCREW DRIVERS.**  
 Douglas Mfg. Co. .... dis 50¢ to 10¢  
 Diston's. .... dis 45¢  
 Cowles Mfg. Co. .... dis 50¢ to 10¢  
 Stanley Rule & Level Co. Var. Hds. .... dis 60¢  
 Stanley Rule & Level Co.'s Black Hds. .... dis 50¢  
 Ratchet. .... dis 33¢ to 50¢  
 Shepardson's Patent. .... dis 50¢  
 Shepardson. .... dis 50¢

**SPADE TRIMMERS.**  
 Bonney's. .... dis 50¢ to 100¢, dis 50¢ to 100¢  
 Stearns'. .... dis 50¢ to 100¢  
 Ives'. .... No. 1, \$1.50; No. 2, \$1.50; dis 50¢ to 100¢  
 Douglass'. .... dis 50¢ to 100¢

**SILVER PLATED WARE.**  
 Wm. Rogers Manf. Co. .... dis 50¢ to 100¢  
 Holmes, Booth & Hayden. .... dis 50¢ to 100¢  
 Wallace's Steel Silver Plated. .... dis 33¢ to 50¢  
 Rogers Bros. 1847. .... dis 50¢ to 100¢  
 C. Rogers & Bro. .... dis 50¢ to 100¢

**SCREWS.**  
 Standard new list, Feb. 15.

Flat Head Bright. .... 70¢  
 Round Head Bright. .... 65¢  
 Flat Head Brass. .... 65¢  
 Round Head Brass. .... 60¢  
 Flat Head Blued (add 5¢ to net). .... 70¢  
 Brass and Silver Capped. .... 40¢  
 Japanned Flat Head. .... 65¢  
 Coach, Patent Gimlet Point. .... dis 65¢  
 Coach, Common or Lag. .... dis 70¢  
 Bed. .... dis 25¢  
 Machine, Flat Head, Iron. .... dis 55¢  
 Machine, Round Head, Iron. .... dis 50¢  
 Bench, Irons. .... dis 50¢ to 100¢  
 Bench, Wood, Beach. .... dis 50¢ to 100¢  
 Bench, Wood, Hickory. .... dis 50¢ to 100¢  
 Hand, Wood. .... dis 25¢ to 100¢  
 Hand Rail, Sargent's. .... dis 60¢ to 100¢  
 Hand Rail, Humason, Beckley & Co.'s. .... dis 40¢ to 100¢  
 Hand Rail, Am. Screw Co., list Jan. 1. .... dis 70¢ to 100¢  
 Jack (Wilson's). .... dis 25¢

**SCREEN FRAMES AND FIXTURES.**  
 Standard Window Screens No. 1, 2, 3, 4, 5  
 " Door " No. 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 999, 1000, 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1009, 1009, 1010, 1011, 1012, 1013, 1014, 1015, 1016, 1017, 1018, 1019, 1019, 1020, 1021, 1022, 1023, 1024, 1025, 1026, 1027, 1028, 1029, 1029, 1030, 1031, 1032, 1033, 1034, 1035, 1036, 1037, 1038, 1039, 1039, 1040, 1041, 1042, 1043, 1044, 1045, 1046, 1047, 1048, 1049, 1049, 1050, 1051, 1052, 1053, 1054, 1055, 1056, 1057, 1058, 1059, 1059, 1060, 1061, 1062, 1063, 1064, 1065, 1066, 1067, 1068, 1069, 1069, 1070, 1071, 1072, 1073, 1074, 1075, 1076, 1077, 1078, 1079, 1079, 1080, 1081, 1082, 1083, 1084, 1085, 1086, 1087, 1088, 1089, 1089, 1090, 1091, 1092, 1093, 1094, 1095, 1096, 1097, 1098, 1099, 1099, 1100, 1101, 1102, 1103, 1104, 1105, 1106, 1107, 1108, 1109, 1109, 1110, 1111, 1112, 1113, 1114, 1115, 1116, 1117, 1118, 1119, 1119, 1120, 1121, 1122, 1123, 1124, 1125, 1126, 1127, 1128, 1129, 1129, 1130, 1131, 1132, 1133, 1134, 1135, 1136, 1137, 1138, 1139, 1139, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, 1149, 1150, 1151, 1152, 1153, 1154, 1155, 1156, 1157, 1158, 1159, 1159, 1160, 1161, 1162, 1163, 1164, 1165, 1166, 1167, 1168, 1169, 1169, 1170, 1171, 1172, 1173, 1174, 1175, 1176, 1177, 1178, 1179, 1179, 1180, 1181, 1182, 1183, 1184, 1185, 1185, 1186, 1187, 1188, 1189, 1189, 1190, 1191, 1192, 1193, 1194, 1195, 1195, 1196, 1197, 1198, 1199, 1199, 1200, 1201, 1202, 1203, 1204, 1205, 1206, 1207, 1208, 1209, 1209, 1210, 1211, 1212, 1213, 1214, 1215, 1215, 1216, 1217, 1218, 1219, 1219, 1220, 1221, 1222, 1223, 1224, 1225, 1225, 1226, 1227, 1228, 1229, 1229, 1230, 1231, 1232, 1233, 1234, 1235, 1235, 1236, 1237, 1238, 1239, 1239, 1240, 1241, 1242, 1243, 1244, 1245, 1245, 1246, 1247, 1248, 1249, 1249, 1250, 1251, 1252, 1253, 1254, 1255, 1255, 1256, 1257, 1258, 1259, 1259, 1260, 1261, 1262, 1263, 1264, 1265, 1265, 1266, 1267, 1268, 1269, 1269, 1270, 1271, 1272, 1273, 1273, 1274, 1275, 1276, 1277, 1277, 1278, 1279, 1279, 1280, 1281, 1282, 1283, 1283, 1284, 1285, 1286, 1287, 1287, 1288, 1289, 1289, 1290, 1291, 1292, 1293, 1293, 1294, 1295, 1296, 1297, 1297, 1298, 1299, 1299, 1300, 1301, 1302, 1303, 1303, 1304, 1305, 1306, 1307, 1307, 1308, 1309, 1309, 1310, 1311, 1312, 1313, 1313, 1314, 1315, 1316, 1317, 1317, 1318, 1319, 1319, 1320, 1321, 1322, 1323, 1323, 1324, 1325, 1326, 1327, 1327, 1328, 1329, 1329, 1330, 1331, 1332, 1333, 1333, 1334, 1335, 1336, 1337, 1337, 1338, 1339, 1339, 1340, 1341, 1342, 1343, 1343, 1344, 1345, 1346, 1347, 1347, 1348, 1349, 1349, 1350, 1351, 1352, 1353, 1353, 1354, 1355, 1356, 1357, 1357, 1358, 1359, 1359, 1360, 1361, 1362, 1363, 1363, 1364, 1365, 1366, 1367, 1367, 1368, 1369, 1369, 1370, 1371, 1372, 1373, 1373, 1374, 1375, 1375, 1376, 1377, 1377, 1378, 1379, 1379, 1380, 1381, 1382, 1383, 1383, 1384, 1385, 1386, 1387, 1387, 1388, 1389, 1389, 1390, 1391, 1392, 1393, 1393, 1394, 1395, 1396, 1397, 1397, 1398, 1399, 1399, 1400, 1401, 1402, 1403, 1403, 1404, 1405, 1406, 1407, 1407, 1408, 1409, 1409, 1410, 1411, 1412, 1413, 1413, 1414, 1415, 1415, 1416, 1417, 1417, 1418, 1419, 1419, 1420, 1421, 1422, 1423, 1423, 1424, 1425, 1425, 1426, 1427, 1427, 1428, 1429, 1429, 1430, 1431, 1432, 1433, 1433, 1434, 1435, 1435, 1436, 1437, 1437, 1438, 1439, 1439, 1440, 1441, 1442, 1443, 1443, 1444, 1445, 1445, 1446, 1447, 1447, 1448, 1449, 1449, 1450, 1451, 1452, 1453, 1453, 1454, 1455, 1455, 1456, 1457, 1457, 1458, 1459, 1459, 1460, 1461, 1462, 1463, 1463, 1464, 1465, 1465, 1466, 1467, 1467, 1468, 1469, 1469, 1470, 1471, 1471, 1472, 1473, 1473, 1474, 1475, 1475, 1476, 1477, 1477, 1478, 1479, 1479, 1480, 1481, 1482, 1483, 1483, 1484, 1485, 1485, 1486, 1487, 1487, 1488, 1489, 1489, 1490, 1491, 1491, 1492, 1493, 1493, 1494, 1495, 1495, 1496, 1497, 1497, 1498, 1499, 1499, 1500, 1501, 1502, 1503, 1503, 1504, 1505, 1505, 1506, 1507, 1507, 1508, 1509, 1509, 1510, 1511, 1511, 1512, 1513, 1513, 1514, 1515, 1515, 1516, 1517, 1517, 1518, 1519, 1519, 1520, 1521, 1521, 1522, 1523, 1523, 1524, 1525, 15

FIRE-PROOF  
WATER-PROOF  
WIND-PROOF

## GUTTA PERCHA ROOFING!

The Great Roofing for the South. Send for Southern Manufacturers' References. For Steep or Flat Roofs, Factories, Mills, Lumber Sheds, etc. Send for Catalogue, Testimonials, Samples, etc.

Empire Paint & Roofing Co., 1128 & 1130 Race St., Philadelphia, Pa.

MANUFACTURERS OF  
**GLOBE**  
"STANDING SEAM"  
IRON ROOFING.  
**Excelsior**  
V-Crimped  
IRON ROOFING.  
READY-ROLL  
CAPPED ROOFING.



Corrugated Iron,  
All Desired Gauges and  
Sizes.

Painted,  
Calamined,  
Galvanized.

Send for our descriptive and illustrated catalogue.

PRICES and ESTIMATES  
promptly furnished.

CRIMPED & CORRUGATED  
**IRON ROOFING.**  
SIDING. METAL  
CEILING. SHINGLES.  
**W.G. HYNDMAN & CO.**  
CINCINNATI, O.  
SEND FOR CIRCULAR & PRICES

CANTON IRON ROOFING CO., CANTON, OHIO,

MANUFACTURERS OF THE H. W. SMITH PATENT

STEEL  
ROOFING



CORRUGATED IRON

Roofing and Siding,  
Beaded Iron Ceiling  
and Siding, Crimped  
Edge Roofing and  
Siding, Roof Paint,  
Roofers' Paper, &c.

BEADED

Send for Catalogue, Price List and Samples.

**GARRY IRON ROOFING COMPANY.**  
IRON ORE PAINT  
AND CEMENT.  
152-158 Merwin Street,  
CLEVELAND, O.



Send for Circular and Price  
List No. 99.

THE  
**SAGENDORPH**  
IRON ROOFING  
& CORRUGATING CO.  
CINCINNATI, OHIO.



## METAL SKYLIGHTS



And VENTILATORS for Mills, Stores and Dwellings.  
Galvanized Iron and Copper Cornices and Gutters, Metal Shingles, Sheet Metal Work for buildings. Send for illustrated circular.  
E. VAN NOORDEN & CO.  
383 Harrison Avenue, - - BOSTON.

**SYKES IRON ROOFING CO., NILES, O.**

SYKES'  
IMPROVED  
Best Roof in the  
World.  
Suitable for all  
classes of  
Buildings,  
Easy Put On.

Send for Circular and Price List, and mention this Paper.



all the sta-  
of Leather Belting.  
and the Patna Brand Belting.  
mechanically made; is a buffed  
the good qualities of ordinary  
Page's Patent. Try it.  
No. 21, describing the "Kinds and  
for Different Kinds of Work."

**PAGE BELTING COMPANY,**

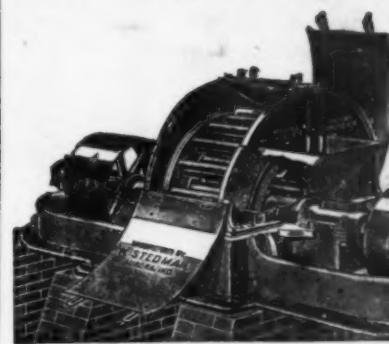
SECTION OF COPPER WIRE-SEWED LIGHT DOUBLE BELTING.

We Manufacture  
ple and special grades  
Also the "Hercules" Lacing  
The Hercules is me-  
lacing; combined  
Raw Hide and of  
Send for Catalogue  
Grades of Belting to use



CONCORD, N. H., U. S. A.

## Stedman's Improved Disintegrator & Pulverizer.



This Mill will disintegrate or pulverize the following materials: Clays of all kinds direct from the bank, for brick and tile; Shale and Slate direct from the bank, for brick and tile; Fire Clay and Sand Stone Rock, for cement and fire brick; Graphite Crucibles and Slag from open air furnaces, for use in rolling mills; Coals of all kinds, and other materials for foundry facings; Iron Ores of various kinds, Guaico, Phosphates, Bones, green, dry or steamed; Tankage, Bone Ash, Salt Cake, Soda, Cracklings, Oyster Shells, Animal Matter in almost all conditions, old

Fire Brick and Tiles, old  
Pottery Ware, Plastic Clay, Asbestos, and in fact almost  
any material that can be  
disintegrated. The Mill  
shown in the above cut is  
an improvement over any  
yet made. To brick, tile  
and pottery men and to  
terra cotta works this Mill  
is invaluable. It reduces the  
clay to a fine, light and soft  
condition, with its full ad-  
hesive properties retained.

Stedman's Foundry & Machine Works, AURORA, IND.

## R. SWORMSTEDT & CO.

Mill Builders

ALSO EASTERN AND SOUTHERN AGENTS FOR  
The COLUMBUS  
ROLLER CHAIN BELTING.

Mill Furnishings

Office and Warehouse, 11 S. Frederick Street,  
BALTIMORE, MD.

EWART'S PATENT CHAIN BELTING

LINK BELT MACHINERY.

Elevating and Conveying Machinery.  
EMPLOYING EWART CHAIN.

For Coal, Phosphate, Tan, Ore, Stone, &c.

**BURR & DODGE,**  
39 S. Holliday Street,  
BALTIMORE, MD.

Link Belt Machinery Co., Chicago, Ill.  
Send for new catalogue, containing all the latest improvements in Elevators and Conveyors

Baltimore Mill Furnishing Works  
Manufacturers of  
Mill Stones, Roller Mills, Portable Mills, Pulleys,  
Shafting, and Mill Gearing.  
Importers of  
Bolting Cloths, and General Mill Furnishers.

**B. F. STARR & CO.**

North and Center Sts., Baltimore.

**EMPIRE CITY PULVERIZING MILLS,**  
For Coffee, Ginger and other roots, Spices, Chemicals, &c.  
TO ANY DEGREE OF FINENESS.  
Also Grains of all kind, Ear Corn, Beans, Peas, etc.

**J. B. WARING & SONS,** 106 & 108 Liberty Street, N. Y.  
Complete Pulverizing Plants Furnished.

**DAVIDS' PATENT DISINTEGRATING MILL**  
For Bones, Phosphates, Tankage, Ores, Clay, Fish Scrap, Salt Cake, &c.  
Fertilizer Machinery, Mixers' Rolls, Breakers, &c., &c. Marine  
Railways, Clay Temperers. Send for Catalogue.

**JAMES MURRAY & SONS,** 102 to 108 York Street, Baltimore, Md.

**KREHL, HAUSER & CO., GIRARD, O.**  
TANNERS OF  
**OAK LEATHER.**  
Specialties—Fine Harness, Superior Saddle Skirting, Black and Fair Bridle,

## MANUFACTURERS' RECORD.

## BLACKSMITHS' TOOLS.

## XXX Post Drill

Weight, 10 lbs. Drills from  $\frac{1}{4}$  to 1-inch hole. List, \$28. Special price to February 1, 1888, \$15.

## NEW

## Model Bench Drill.

10,000 sold. List price \$28. Special price to February 1, 1888, \$15. Address for terms and catalogues.

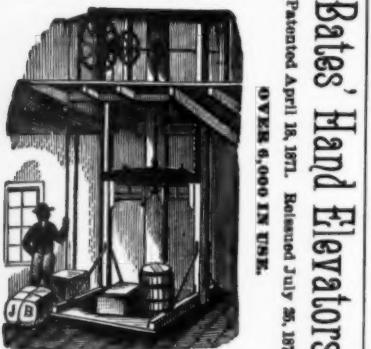
Manner Drill Man'g Co.  
ROCHESTER, N. Y.

## The Jeffrey Mfg. Co.

121 West State St., Columbus, O.  
MANUFACTURERS OF  
ELEVATORS, CONVEYERS,  
DRIVING BELTS, for Handling

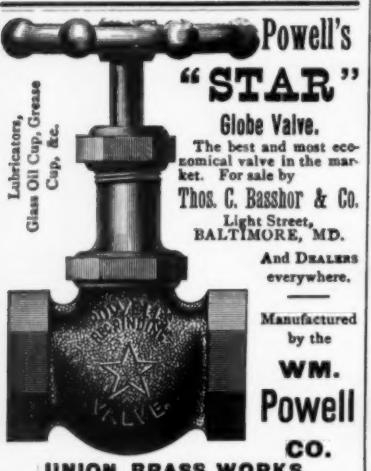


R. SWORMSTEDT & CO., Agents, Baltimore.



Adapted for Warehouses, Stores, Factories, Hotels, Public Institutions, and every place where merchandise, &c., is transferred from one store to another.

JAMES BATES, Patentee,  
Nos. 1 3 & 5 President Street, BALTIMORE.

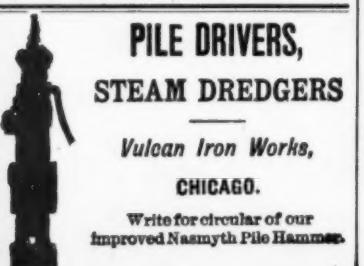


UNION BRASS WORKS,  
50, 52 & 54 Plum Street, CINCINNATI, OHIO.

PILE DRIVERS,  
STEAM DREDGERS

Vulcan Iron Works,  
CHICAGO.

Write for circular of our  
improved Nasmyth Pile Hammer.



## BLACKSMITHS' TOOLS.

## XXX Post Drill

Weight, 10 lbs. Drills from  $\frac{1}{4}$  to 1-inch hole. List, \$28. Special price to February 1, 1888, \$15.

## NEW

## Model Bench Drill.

10,000 sold. List price \$28. Special price to February 1, 1888, \$15. Address for terms and catalogues.

Manner Drill Man'g Co.  
ROCHESTER, N. Y.



## PIPE FITTERS' TOOLS.

Hand and Power Pipe-Cutting and Threading Machines, Pipe Stocks and Dies, Pipe, Taps, Drills and Reamers, Machinists' Die-Plates, Machinists' Taps, Solid Bolt Dies, Pipe-Tongs, Adjustable Tongs, Pipe-Wrenches, Monkey-Wrenches, Gas-Fitters' Pliers, Augers, Pipe-Cutters, Pipe Vises, Chisels, Ratchets, Gas-Fitters' Pumps, Boiler Tube Brushes and Cleaners, Boiler Tube Expanders, Hydraulic Punches and Jacks, Patent Hand Hoisting-Machines, Oilers, Hammers, &c.

SEND FOR CATALOGUE AND PRICE-LIST

—TO—

## PANCOAST &amp; MAULE,

243 and 245 South Third Street,

PHILADELPHIA.

Mention this Paper when you Address us



## McShane &amp; Bell &amp; Foundry

Fine Iron and Brass Castings Made to Order.

Manufacture those celebrated Bells for Tower Clocks, Court-Houses, Cotton Mills, Factories, &c. Prices and catalogues sent free. Address H. McSHANE & CO. Baltimore, Md.

Mention this Paper.

## WIRE RAILING

and Ornamental Wire Works.

DUFUR & CO. 36 N. Howard St., Baltimore.

Wire Railing for Cemeteries, Lawns, Gardens, Offices and Balconies; Window Guards, Tree Guards, Wire Cloth, Sieves, Fenders, Cages, Sand and Coal Screens, Iron Bedsteads, Chairs, &c.

## FOR SALE.

One 50-ton Zero Ice Machine at half-price.  
Correspondence solicited.

E. P. GELACH, Box 110, Cleveland, Ohio.

## Established 1867.

## E. HARRINGTON, SON &amp; CO.

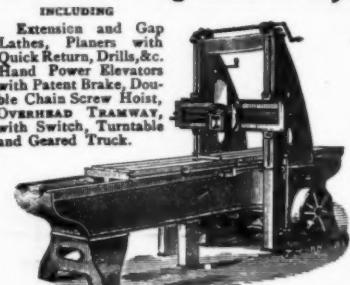
Works and Office,  
N. 15th St. & Penna. Ave., Phila., Pa., U.S.A.

Manufacturers of a full line of

## Iron Working Machinery,

## INCLUDING

Extension and Gap Lathes, Planers with Quick Return, Drills, &c. Hand Power Elevators with Patent Brake, Double Chain Screw Hoist, OVERHEAD TRAMWAY, with Switch, Turntable and Geared Truck.



Gear Cutting a Specialty. Send for estimates.

Represented by J. Q. MAYNARD, 12 Cortland St., N. Y. C. E. KIMBALL, 93 Oliver St., Boston; W. BUCHNER, 105 Main St., Cincinnati.

## Sweet's Patent Measuring Machine.



Measuring Screw 10, 16 or 20 Threads to the inch, graduated to read thousandths or 3ds without calculation.

## IT WILL PAY YOU TO USE THIS MACHINE

Upon COMMON WORK for the TIME it will save. Upon FINE WORK for the ACCURACY it will secure. It is the only Micrometer that will not lose its accuracy by use.

We will send one of these machines to reliable parties on trial. Those who use it would be without one for many times its cost. Address,

SYRACUSE TWIST DRILL CO., SYRACUSE, N. Y.

## SAWS

Four Gold Medals at New Orleans.

1885.

Circular Saws, solid and inserted point. Crescent Ground Cross Cut Saws, Gang, Mill, Mulay and Drag Saws, Milled Tooth Band Saws.

Planer Knives, Paper Cutting Knives, Leather Splitting Knives. Knives made to any pattern furnished.

Simonds Mfg. Co.  
Cor. Canal and Washington Sts.  
Chicago, Ills.

FITCHBURG, MASS.

## SAVINK MACHINE

\$250 WILL BUY



## THE BEST SAWMILL

Yet offered for the money.  
SEND FOR CIRCULAR.

RICHMOND MACHINE WORKS,  
RICHMOND, INDIANA.

Pennsylvania Agricultural Works, York, Pa.  
Farquhar's Standard Engines and Saw Mills.

Send for Circular. Portable, Stationary, and Automobile Engines a specialty. Warranted equal to any made.



Address A. B. FARQUHAR & SON, York, Pa.

## \$200 SINGLE. \$300 DOUBLE.

With Saw and  
Tongue and Groove  
drive it. Agents wanted.  
ROCKWOOD, NEWCOME & CO.  
180 to 190 S. Pennsylvania St., Indianapolis, Ind.

## THE BAY LINE

FOR

FORTRESS MONROE, NORFOLK and the SOUTH.

The Bay Line comprises the New and Elegant Steamers  
"VIRGINIA," "CAROLINA" and "FLORIDA."

All the Comforts and Luxuries of a First-Class Hotel are afforded the Traveler. Spacious and Elegant Saloons and Staterooms, furnished with an especial view to comfort. Unparalleled Cuisine, which is made a specialty with this Line. Elegant service and courteous attention. Steamers leave Baltimore daily except Sundays at 9 P. M.

At Old Point Comfort is located the SPLENDID HYGEIA HOTEL, a Delightful Resort at all Seasons of the Year. For Tickets and Information, apply at Company's office,

157 W. BALTIMORE ST., BALTIMORE,  
Or on Board of Steamers.  
D. J. WILL, Superintendent.

E. BROWN, General Ticket Agent.

# THE St. James Hotel

Cor. Charles and Centre Streets. BALTIMORE, MD. Near the Washington Monument.

ON THE EUROPEAN PLAN.

Strictly First-Class. Rooms Single and En Suite.

FINEST CAFÉ IN BALTIMORE.

The St. James Hotel has the pleasantest situation, amid beautiful surroundings, and is patronized by the better class of travelers. The hotel is now under a new management, and has been refitted and improved in every way. Secure rooms in advance by addressing

JOHN S. CROWTHER, Manager.

# THE STILLMAN

CLEVELAND, OHIO.

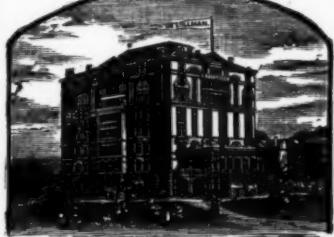
Unsurpassed in its Elegance, Fine Cuisine and Table Service.

Only Fire-Proof Hotel in Cleveland.  
Every room heated by Steam and lighted by Electric Light.

RATES \$3.50 TO \$5.00 PER DAY.

Elegant suites can be secured by addressing

J. WARREN COLEMAN, Jr., Manager.



# Colonnade Hotel,

Chestnut St., Cor. 15th,

One block from new Penna. Railroad Depot,

PHILADELPHIA.

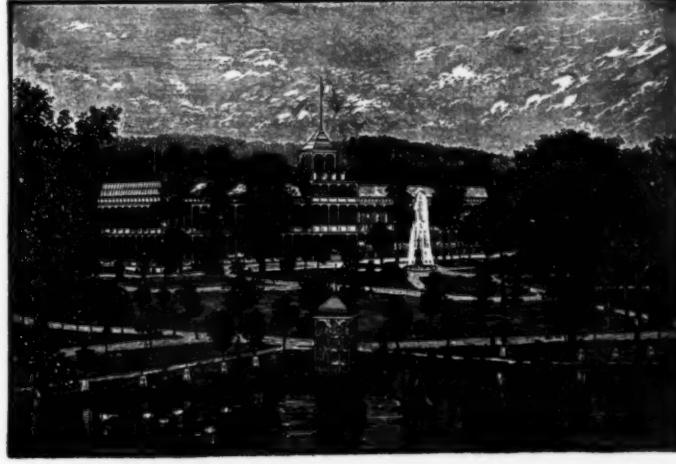
H. J. & G. R. CRUMP.

A FAVORITE RESORT  
FOR ALL  
SOUTHERN TRAVEL.



# Lakeview Hotel,

LAKEVIEW PARK, near BIRMINGHAM, ALA.



ELY SPENCER, Manager.

## ALTITUDE OF HOTEL, 150 FEET ABOVE CITY.

Hotel and Furniture Entirely New. House Supplied Throughout with Pure Spring Water by an Independent System of Water Works. Electric Lights, Electric Bells, and all Modern Conveniences.

ACCOMMODATIONS FIRST-CLASS IN EVERY PARTICULAR.

Steam Motor Trains on Highland Avenue Railroad leave 19th Street and 1st Avenue, within Half Block of Union Passenger Depot, for Lakeview Park, every Fifteen Minutes.

Concerts Every Afternoon and Evening by the Hotel Band.

# THE MANUFACTURERS' RECORD

IS THE FOREMOST EXPONENT OF THE INDUSTRIAL  
INTERESTS OF THE SOUTH.



# THE PREMIER FLOUR OF AMERICA.

Patapsco Flouring Mills.

ESTABLISHED 1774.

The value of Flour depends upon the essential elements of nutrition contained in the bread it makes. Our PATENT ROLLER FLOURS are manufactured from the CHOICEST WHEAT OBTAINABLE Baltimore stands pre-eminent in this country as a market for choice wheat, which gives us a great advantage in the selection of the BEST THAT IS GROWN. The SUPERIOR COMBINATION OF GLUTEN AND PHOSPHATES thus afforded enables us to place on the market Flour UNEQUALED FOR ITS PURITY AND NUTRITIOUS PROPERTIES. This fact is recognised, not only in this country, but in Europe as well, where the "PATAPSCO SUPERLATIVE" commands decidedly more money than any other American Flour, thereby clearly demonstrating its superior qualities for making the WHITEST, SWEETEST AND MOST NUTRITIOUS BREAD.

ASK YOUR GROCER FOR

PATAPSCO SUPERLATIVE PATENT,  
CHESAPEAKE EXTRA,

PATAPSCO FAMILY PATENT,  
ORANGE GROVE EXTRA.

C. A. GAMBRILL MNFG CO.  
Office. 214 Commerce St. Baltimore, Md.



Issues Policies of Insurance after Careful Inspection of the Boilers, covering Loss or damage to property, and Loss of Life and Personal Injury

ARISING FROM STEAM BOILER EXPLOSIONS.

Full information concerning the plan of the Company's operations can be obtained at the COMPANY'S OFFICE, Hartford, Conn., or at any agency.

H. ALLEN, Pres. W. B. FRANKLIN, Vice-Pres. J. B. PIERCE, Secy.

BOARD OF DIRECTORS:

J. W. ALLEN, President. WM. B. FRANKLIN, Vice-President Colt's Patent Fire Arms Manufacturing Co.  
LUCIUS J. HENDEE, President Mine Fire Insurance Co. NEW YORK LIFE INSURANCE CO., Lockwood & Brinsford, Hartford.  
F. W. CHENEY, Acting Pres. Oliver Chapman, Bro. Silk Mfg. Co. NELSON HOLLISTER, State Bank, Hartford.  
CHARLES E. BUCH, Vice-Pres. & Gen. Mgr. CHARLES T. PARRY, of Baldwin Locomotive Works, Phila.  
DANIEL PHILLIPS, of Adams Express Co. EDMUND A. STEEDMAN, Treasurer Fidelity Co., Hartford, Conn.  
R. W. H. JARVIS, Pres't Colt's Fire Arms Mfg. Co. CLAFF SPOONER, N. E. Manager Adams Express Co., Singapore, Conn.  
THOMAS O. ENDERS, Secretary Anna Life Insurance Co., LEVERETT BRAINARD, of Case, Lockwood & Brinsford.  
GEORGE H. ROBINSON, Attorney-at-Law, Hartford. HON. H. G. ROBINSON, Attorney-at-Law, Hartford.  
GAWFORD & MAKIM, Agents for Maryland, 22 Second St., Baltimore, Md.

# The True Idea of Assurance.

Women's Mutual Insurance and ACCIDENT COMPANY.

OFFICERS AND  
ELIZABETH H. PHELPS, Pres.  
MARGARET HOLCOMBE, Vice-Pres.  
EMILY TAYLOR,  
Elizabeth S. Roberts, H. Louise Gates,  
Medical Examiner.

DIRECTORS:  
ELIZABETH HARDENBURGH, Pres.  
CORNELIA KAMPING, Vice-Pres.  
Secretary, Charlotte Mulligan, M. F. Hoagland.

ALFRED K. HILLS, M. D., 115 Fifth Avenue. MARY PUTNAM JACOBI, M. D., 115 W. 5th Street  
JOHN A. KELLY, Attorney and Counsel, 115 Broadway, New York. Incorporated under the Laws of New York.

ITS OBJECT. FINALLY.  
This company is the pioneer in throwing down the bars of unjust discrimination against women in insurance. It has adopted a simple and common-sense insurance plan, more moderate to be in favor of females at every age, and married as well as single. To remove this prejudice, and to secure to women an equal estimation in their insurability, the promoters of this enterprise have devoted themselves. Consistently with this principle WOMEN AND MEN are equally insured in this company without discrimination on account of sex.

ITS MEMBERSHIP comprises persons between the ages of 16 and 50, of approved physical condition. The Life Insurance is \$1000, and the Accident Insurance members being liable for losses only occurring in the class to which they belong.

ITS PLAN sources insurance at cost, and embraces the best features of similar associations, with such improvements added as enlightened experience has shown to be desirable for the member's advantage and the security of the association.

ITS SAFETY AND SECURITY consists in the ECONOMICAL operation of the company, in the IMPOSSIBILITY of insolvency, and in SECURITY RESERVE.

BANKERS:  
BANK OF THE METROPOLIS, New York City.  
DEPARTMENT OF INSURANCE:  
FARMERS' LOAN AND TRUST CO., New York City.

The offices should be pleased to furnish any further particular which may be desired in relation to the Company's affairs, or the way to obtain a policy.

Agents are desired in every city, village and district throughout the healthful sections of the country.

Address all communications to the

WOMEN'S MUTUAL INSURANCE AND  
ACCIDENT CO.,  
115 BROADWAY, NEW YORK.

# PIEDMONT AIR LINE.

# RICHMOND & DANVILLE R.R. CO.

THE SHORT AND DIRECT LINE FROM

Washington, D. C., and Richmond, Va.,

To Atlanta, Augusta, Columbia, Asheville, Raleigh, Greensboro, Salisbury, Goldsboro, Birmingham, Montgomery, Vicksburg, Shreveport, Mobile, New Orleans, Texas, Mexico and California, and the South and Southwest.

DOUBLE DAILY, SOLID TRAINS between Washington and Atlanta.  
Pullman's Palace Buffet and Drawing-Room Sleeping Cars without change to Atlanta, New Orleans, Augusta, etc.

For maps, time-tables, rates of passage, freight, etc., apply to nearest Station Agent of the Piedmont Air Line, or to any Railroad Agent of principal lines North or South.

E. B. THOMAS, General Manager.  
PEYTON RANDOLPH, Asst. Gen. Manager.

SOL. HAAS, Traffic Manager.  
JAS. L. TAYLOR, Gen. Pass. Agt.

## The Globe Incandescent Lamp.

A 400 Candle Power Coal Oil Burner which will brilliantly illuminate a room 50 feet square.



For Lighting Storerooms, Hotel Offices, Dining Rooms, Halls, Churches, Restaurants, Saloons, etc.

Wick 12 inches in circumference.

Reservoir holds 15 pints.

Costs less than 2 cents per hour to operate.

The wick is raised by a vertical movement without Ratchets or Rollers.

Produces a Soft, Steady, Golden Illumination at about one-third the cost of gas.

Affords the convenience of but one reservoir to fill and one globe to clean.

Specially adapted for lighting factories where a powerful STEADY light is required.

TWO GLOBE LAMPS will produce as much light as one arc electric lamp, and will illuminate a room with greater satisfaction, requiring no machinery.

MANUFACTURED BY

110 to 120 Perkins Avenue,  
CLEVELAND, O., U.S.A.

THE STANDARD LIGHTING CO.

Eastern Agents: H. & N. RUSSELL & DAY, 42 Barclay St., New York.

WANTED.—A good Agent in every Southern city to handle our Lamps and Vapor Stoves. Correspondence Solicited.

## Queen City Printing Ink Co.

CINCINNATI, OHIO.

WITH WHICH THIS PAPER IS PRINTED.  
IS MADE BY THE  
THE INK QUEEN CITY PRINTING INK CO.  
CINCINNATI, O.

MANUFACTURERS OF ALL DESCRIPTIONS OF

## INKS!

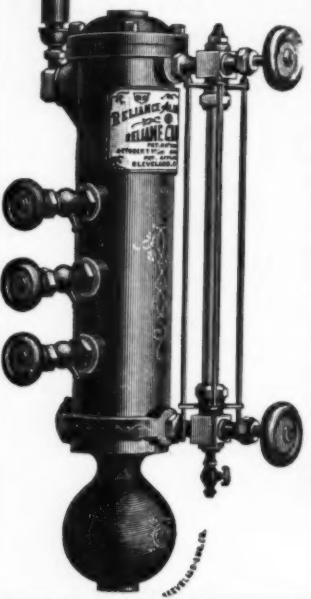
• Varnishes and Sizes •

FOR PRINTERS' USE.

New York Office, . . . 194 William Street

Philadelphia Office, . . . 434 Walnut Street.

## IF YOU THINK THE RELIANCE Safety Water Columns



Promote carelessness, you are greatly mistaken. There is not a man living, be he skilled engineer or negro stoker, who will not, from the very nature of things, watch the water closer with than without them. They are as certain to not whistle if the water is right as they are to whistle if it is wrong, and those in attendance take good care to keep it right. Through extra watchfulness and these automatic alarms the best economical results are obtained, and the danger of explosions and damage from too much and too little water is reduced to a minimum. They are a needed safeguard, and you can ill afford to be without them. They are for sale and warranted by dealers and boiler makers generally. Send for illustrated price-list.

## RELIANCE GAUGE CO.

Argyle Building,  
CLEVELAND, OHIO.

JOHN E. RANDLE & CO.  
MEMPHIS, TENN.

Founders and Machinists

MANUFACTURERS OF  
AJAX STEAM-POWER COTTON PRESS.  
Brooks & Albertson Horse-Power Presses.  
DEALERS IN  
ATLAS ENGINES AND BOILERS.  
Mill and Plantation Machinery of every description.  
Send for catalogue. Correspondence solicited.



## THE IMPROVED FLORIDA STEAM HEATER



The best and most complete House Heater in the world. Self-feeding, automatic, portable and saves all expense of brick-work. Most economical. Carries steam from 10 to 12 hours without attention. Compact, 14 inches, from 4 to 6 feet high. Anti-clinker grate, easily shaken, no dust. Sales larger than the combined sales of all reputable Steam Heaters.

3500 in ACTUAL USE,  
all giving the best satisfaction. Estimates furnished on application. Send for Illustrated Catalogue. Address

PIERCE, BUTLER & PIERCE MFG. CO.,  
SOLE MANUFACTURERS SYRACUSE, N.Y.  
GENERAL { G. G. BUTLER, 97 William St., New York, N.Y.  
CRANE BROS. MFG. CO., Chicago, Ill.  
JAS. B. ROBERTSON & CO., Baltimore, Md.  
N. O. NELSON MFG. CO., St. Louis, Mo.  
AGENCIES { H. TABER & SON, Chicago, Ill.  
JAMES P. WOOD & CO., Philadelphia, Pa.

## THE RED JACKET STEAM BOILER Flue Blower

Is the Cheapest

And Most

Reliable Flue Cleaner

In the Market.



Simple in Construction,  
Easy to Operate.

ECONOMIZES FUEL  
And  
Increases Boiler Capacity.

THIS FLUE BLOWER operates on an entirely new principle; is easily controlled by one hand. It stands without a rival and is pronounced by engineers the only perfect cleaner made. Write for circular and prices to STEWART HEATER CO., 19 and 21 Clinton St., Buffalo, N.Y.

## McLAUGHLIN'S IMPROVED ADJUSTABLE STEAM FLUE CLEANER.



The only Adjustable Jet Flue Cleaner made. It fits any size tubes, from 1 to 20 inches. Patented December 14, 1886. Agents wanted everywhere. Send for Circular G. Address Geo. G. McLaughlin Mfg. Co., 137 Oliver Street, BOSTON.

Look Carefully through this paper and you may find an advertisement of some machinery or other goods that you are in need of. Preserve this copy for future reference.

THE BABCOCK & WILCOX CO.

**THE BABCOCK & WILCOX CO.**  
30 CORTLAND ST. N.Y.  
107 HOPE ST  
CLASCO, SCOTLAND.

**VALUABLE BOOK ON STEAM**  
THE BABCOCK & WILCOX COMPANY  
NEW YORK AND GLASCO.

**FREE ON APPLICATION**  
WATER TUBE STEAM BOILERS.

**BRANCH OFFICES**  
BOSTON, MASS.  
65 OLIVER ST.  
PHILADELPHIA, PA.  
32 N. 5<sup>th</sup> ST.  
CHICAGO, ILL. 64 S. CANAL ST.  
NEW ORLEANS, LA. 57 CARONDELET ST.  
SAN FRANCISCO, CAL.  
561 MISSION ST.  
LONDON, ENGLAND. 114 NEWGATE ST.  
MANCHESTER, ENGLAND.  
3 VICTORIA BUILDING.  
PARIS, FRANCE. 40 RUE DE MALTE.  
HAVANA, CUBA. 50 SAN IGNACIO.  
SYDNEY, N.S.W. 3 SPRING ST.

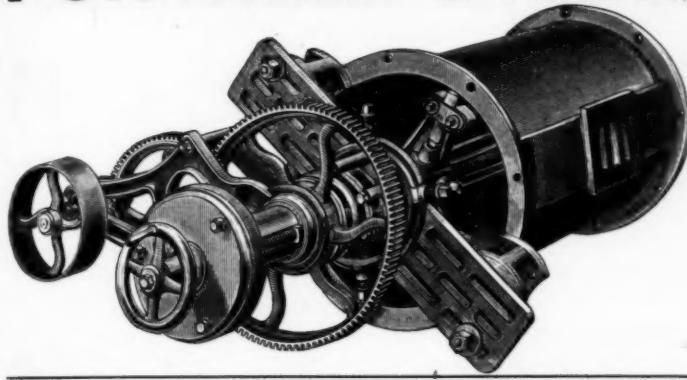
**GLASCO.**

— THE —  
**BABCOCK & WILCOX**  
**BOILERS**

Are Used in the  
\*SOUTH\*

BY		H.P.
Pennsylvania Steel Co., Baltimore, Md.	3,440	
Gosport Navy Yard, Norfolk, Va.	183	
Newberry Cotton Mills, Newberry, S.C.	480	
Ponce de Leon Hotel, St. Augustine, Fla.	416	
Gadaden Furnace Co., Gadaden, Ala.	624	
Tennessee Coal, Iron & Railroad Co., South Pittsburgh, Tenn.	624	
Senate Wing, U. S. Capitol, Washington, D. C.	312	
Wise Brothers, Baltimore, Md.	108	
Alabama & Tennessee Coal and Iron Co., Sheffield, Ala.	1,872	
Hanns Distilling Co., Baltimore, Md.	400	
F. & H. Fries, Salem, N. C.	250	
Jno. Crossley & Sons, Southwood Plantation, La.	1,512	
Louisiana Sugar Refining Co., New Orleans, La.	960	

## PORTABLE CYLINDER BORING MACHINE



This machine is designed for re-boring in present positions all makes and sizes of steam engine cylinders, pumps, steam hammers, blowing engines, air compressors, mining and hoisting engines, coriass valves, hydraulic and steam hoists, heavy housings, large wheels, etc. It will bore with one or both cylinder heads off, either vertical, horizontal, or inclined on the engine bed, or laying on the ground. It is so constructed that the piece being bored serves as the bed or support of the bar. It is only necessary to take off the cylinder head and remove piston, when the cylinder can rapidly and accurately be bored out. This saves breaking the steam joints, bolts, etc., and often cylinder can be re-bored in less time than it would take to remove cylinder from its bed.

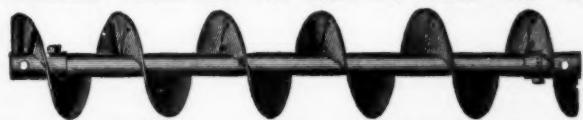
PEDRICK & AYER,

1025 HAMILTON STREET, PHILADELPHIA, PA.

## The CALDWELL PATENT SPIRAL STEEL CONVEYOR,

Made of Steel, Double Bolted, Double Collared and Extra Strong Couplings.

SPECIALLY ADAPTED TO USE IN HANDLING COTTON SEED AND ALL ITS PRODUCTS, FERTILIZERS AND PHOSPHATES.



Dealer in Mill and Grain Elevator Supplies.

Can Ship from Pittsburgh or Chicago.



THIS BUCKET is of one piece steel. No seam. No Rivets. Light, strong, durable. Discharges well at high speed.

H. W. CALDWELL.

131 and 133 West Washington Street,  
CHICAGO, ILL.



**PHOSPHOR-BRONZE**  
INGOTS, CASTINGS & MANUFACTURES.  
THE PHOSPHOR BRONZE SMELTING CO. LIMITED  
512 ARCH ST. PHILADELPHIA, PA. U.S.A.  
ORIGINAL MANUFACTURERS OF PHOSPHOR-BRONZE IN THE UNITED STATES AND OWNERS OF THE U.S. PATENTS.

## SAWYER-MAN ELECTRIC CO.

Licensed by and Succeeding to the Commercial Business of the

CONSOLIDATED ELECTRIC LIGHT COMPANY.

OWNERS  
OF THE  
SAWYER-MAN  
PATENTS.



GENERAL OFFICES:

Mutual Life Building,  
No. 33 Nassau St., N. Y. City.

BALTIMORE OFFICE:

No. 217 E. Fayette St.

PHILADELPHIA OFFICE:

No. 205 Walnut Place.

BOSTON OFFICE:

No. 33 Federal Street.

The DYNAMO of this Company is AUTOMATIC in its regulation, and will maintain a UNIFORM LIGHT, with ALL or ANY PORTION of the lights in Circuit. Our LAMP will not BLACKEN and will MAINTAIN its CANDLE POWER during its Guaranteed life. Plans and Estimates Furnished for all kinds of Incandescent Lighting. ESTIMATES FURNISHED FOR THE THOMSON-HOUSTON SYSTEM OF ARC LIGHTING.

## OILS for WOOLEN MILLS a Specialty.

Established 1832.

## WM. C. ROBINSON & SON,

MANUFACTURERS OF AND WHOLESALE DEALERS IN

**OILS!**

217 (Old No. 81) South Street.

BALTIMORE.

ELAIN OIL. Always satisfactory. Will scour out perfectly in any water.

LANA OIL. A very good oil, but does not scour out as well as Elain in very hard water.

OVEJA OIL. The best Mineral Wool Oil made. Gives satisfaction to our trade who use it. Has a very good body, and scour well for a Mineral Oil.

WE ALSO CARRY IN STOCK:

S. W. SPERM OIL,  
W. SPERM OIL,  
PRIME LARD OIL,

COLOPHINE CYLINDER,  
COLOPHINE ENGINE,  
COLOPHINE SPINDLE,

PARAFFINE,  
LUBRICATING,

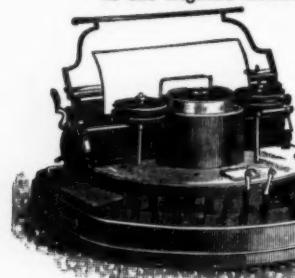
AND ALL OTHER KINDS OF OIL.

Correspondence Solicited and Samples Forwarded, if desired.

**SENECA FALLS PUMP & FIRE APPARATUS WORKS**

## The Hammond Type Writer

is the Highest Achievement yet reached in Writing Machines.



Although not so well known as its predecessors, it has at once sprung into popular favor, and the manufacturers are taxed to supply the demand. It has been on the market long enough to thoroughly test its wearing qualities, and the judgment of all who have used them is that it is the "ne plus ultra" of Type Writers.

Two different styles of type accompany each machine, and other styles can be instantly inserted. The manufacturers of the Hammond solicit business solely upon the ground of superior merit in their particular instrument. An examination, trial and test of the Hammond is solicited by all intending purchasers of Type Writers.

**NOTED FOR** speed, absolutely perfect alignment, uniform impression, changeable type, & light and portable, writes on any width or length of paper, writes on postals, has from 800 to 1,500 less pieces than any other machine, and its work is always in sight. Send for circulars and specimens of its work to

**HAMMOND TYPE WRITER CO.**

75 and 77 Nassau Street.

NEW YORK.

Baltimore Office, No. 15 N. Charles St.

Atlanta Office, No. 21 Alabama St.

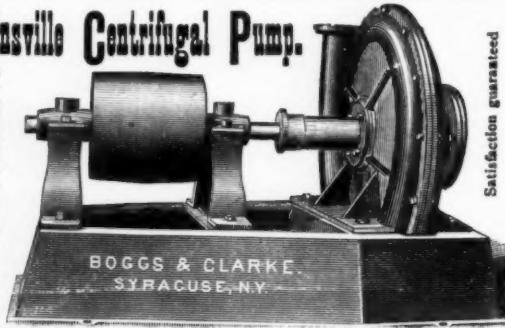
IF YOU WANT A STRONG, HEAVY STEAM PUMP FOR HEAVY WORK OR DIFFICULT DUTY, CORRESPOND WITH

**C. H. BURTON STEAM PUMP WORKS.** - Cleveland, Ohio, U.S.A.

### THE ORIGINAL IMPROVED Baldwinsville Centrifugal Pump.

Sent on trial for thirty days to responsible parties. Our patterns are new and of the best design. Our shop has been fitted up with new tools and appliances of the best manufacture. Being practical machinists for the past twenty-five years, we feel confident we can give the best satisfaction, and therefore we guarantee our work as to prices and quality in every respect. More in use than any other make. Correspondence solicited.

Address  
**BOOGS & CLARKE**  
133 and 135 S. Clinton St.,  
SYRACUSE, N.Y.



Satisfaction guaranteed

**THE LAIDLAW & DUNN CO.,**  
CINCINNATI, O.

Manufacturers of the

"Hero" Vertical Boiler-Feeders,

—AND—

"STANDARD"

DUPLEX

**PUMPS**

WITH BRASS  
REMOVABLE WATER CYLINDERS.  
Send for descriptive circulars.



## STEAM PUMPS.

We have just issued a new Illustrated Catalogue of our

### Steam and Jet Pumps.

A copy will be mailed free on application.

**BLAKESLEE MANF'G CO.**

71 Washington St., DuQuoin, Ill.

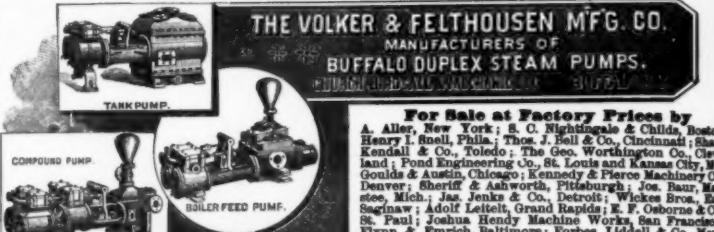
## DEAN BROS. STEAM PUMP WORKS.



**INDIANAPOLIS, IND.**



**VALLEY MACHINE CO. EASTHAMPTON, MASS.**



Supply Co., Columbus, O.; C. S. Leeds & Co., Minneapolis, Minn.; H. D. Coleman, New Orleans, La.

**For Sale at Factory Prices by**  
A. Allen, New York; S. C. Nightingale & Childs, Boston;  
Henry I. Snell, Phila.; Thos. J. Bell & Co., Cincinnati; Shaw,  
Kendall & Co., Toledo; The Geo. Washington Co., Cleve-  
land; Pond Engineering Co., St. Louis and Kansas City, Mo.;  
Goulds & Austin, Chicago; Kennedy & Pierce Machinery Co.,  
Denver; Smith & Johnson, Milwaukee; Jones, Baur, and  
Saginaw; Adolf Leitelt, Grand Rapids; E. F. Osborne & Co.,  
St. Paul; Joshua Hendy Machine Works, San Francisco;  
Flyer & Emrich, Baltimore; Forbes, Laddell & Co., Mont-  
gomery; Bailey & Leiby, Charleston, S. C.; O. B. Goodwin,  
Norfolk; Spence & Co., Milwaukee; Columbus  
Supply Co., Columbus, O.; C. S. Leeds & Co., Minneapolis, Minn.; H. D. Coleman, New Orleans, La.

**Lighting Well Sinking Machinery.** THE LARGEST MANUFACTURERS OF WELL TOOLS.  
We have sunk 500 feet in ten hours with the REVOLVING PROCESS, 100 feet in 40 minutes by the JETTING PROCESS, and 196 feet in ten hours,—without removing the tools from the well,—by the HYDRAULIC PROCESS. We have averaged one foot in ten minutes, to a depth of 650 feet, with our DIAMOND POINTED ROCK DRILLS. We issue an

regularly printed book, "Encyclopedia of Well Sinking Appliances," containing 700 Engravings, illustrating and describing all the practical Tools used in Well Sinking. We also manufacture Wind Mills, Artesian Pumping Engines and Appliances. We will send this Book on receipt of 25 Cents for Mailing. Can direct purchasers to places where wells are required. Drillers and Agents Wanted. Address

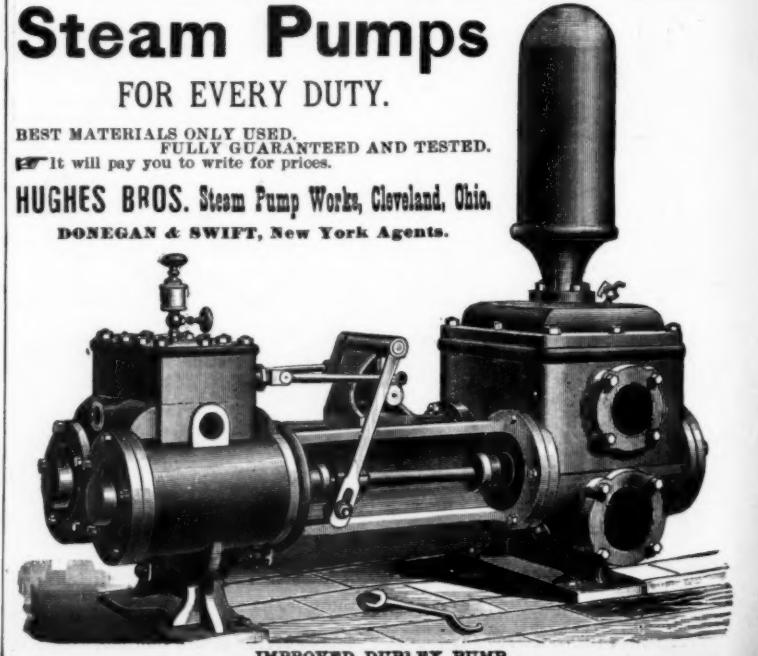
**THE AMERICAN WELL WORKS, Aurora, Ill., U. S. A.**

## Steam Pumps FOR EVERY DUTY.

BEST MATERIALS ONLY USED.  
FULLY GUARANTEED AND TESTED.  
It will pay you to write for prices.

**HUGHES BROS. Steam Pump Works, Cleveland, Ohio.**

**DONEGAN & SWIFT, New York Agents.**



ESTABLISHED

POOLE &amp; HUNT.

1851

## Founders and Machinists.

POOLE & HUNT'S  
LEFFEL • TURBINE. WATER • WHEEL,

Prices as Low as any

other First-Class Wheel.

Machine • Moulded •  
MILL GEARING.

Our plant for the production of MACHINE-  
MOULDED MILL GEARING is une-  
qualed in the country, and we are prepared  
to fill orders with dispatch and at GREAT  
SAVING IN COST OF PATTERNS.



Shafting, Pulleys,  
HANGERS, PEDESTALS.

SHAFTING, PULLEYS, HANGERS  
and COUPLINGS, of latest and most ap-  
proved designs.

N. B.—Shipping facilities the best in all  
directions.

Send for Pamphlet. Send for Price-List.

List of our Gear-  
ing Mailed on  
Application.

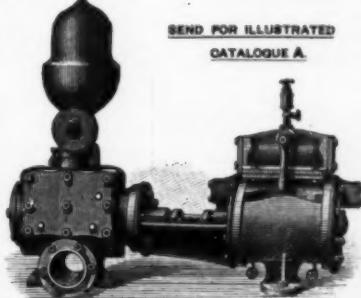
POOLE & HUNT, BALTIMORE, MD.



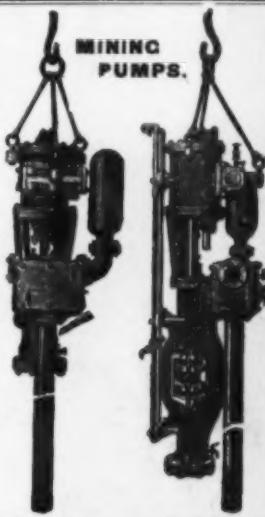
## CAMERON STEAM PUMPS.

PUMPS FOR  
BOILER FEEDING  
MINES,  
REFINERIES,  
BREWERIES,  
TANNERIES,  
IRRICATING,  
FIRE PURPOSES,  
RAILROADS &  
FILLING TANKS.  
CRANK & FLY WHEEL  
& VACUUM PUMPS.

SEND FOR ILLUSTRATED  
CATALOGUE A.



SIMPLE,  
COMPACT,  
DURABLE,  
EFFICIENT.  
ADAPTED to ALL  
PURPOSES.  
NO OUTSIDE  
VALVE GEAR.



The A. S. Cameron Steam Pump Works,

FOOT OF EAST 23D STREET.

NEW YORK.

PISTON PATTERN. PLUNGER PATTERN.

BRIDGEPORT BRASS CO., 19 Murray Street,  
MANUFACTURERS OF NEW YORK

Sheet Brass, Seamless & Brazed Brass <sup>AND</sup> Copper Tubing

BRASS and COPPER WIRE, and RODS,

Gas and Kerosene Burners and Trimmings. The Celebrated Leader Burner a Specialty

ST. ROYAL COPPER WIRES. Plain and Covered. Particular Attention given to Cutting Blanks and Metals in Sheet.

BUY "THE NEW SOUTH."

PRICE \$2.50.

HANDSOMELY BOUND IN CLOTH.

MANUFACTURERS RECORD Co., PUBLISHERS.

# BUY THE BRUSH

Then you will have the best of all

**Electric** 

**Apparatus**

Write immediately for a catalogue regarding

**Arc and Incandescence,  
BRUSH LIGHTS AND MOTORS.**

**The Brush Electric Co.**

CLEVELAND, O.

**A. HOEN & CO.**

LITHOGRAPHERS, BALTIMORE MD.

Our facilities for the production of

**ARTISTIC**

**Color Work**

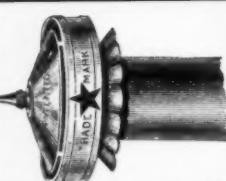
AND ALL STYLES OF

Fine Commercial Engravings  
Are Unsurpassed.

All work executed under careful  
and personal supervision at prices  
consistent with first-class produc-  
tions. Sole proprietors of the

CELEBRATED  
LITHOCALCUT PROCESS  
Branch Establishment:  
Hoens Building, RICHMOND, VA.

ESTABLISHED 1835.



**The STAR Ventilator**

Is guaranteed to be the best in the market for the cure of

**SMOKY CHIMNEYS**

And ventilation of Residences, Factories, School Houses, Cars, Yachts, ETC.

**MERCHANT & CO. NEW YORK. CHICAGO.**

THE

**Universal Radial Drill Co.**  
CINCINNATI, O.

Manufacturers Exclusively of

**"Universal"  
AND  
"Radial"  
Drilling Machines**

TO STANDARD GAUGES.

Prices upon application. Correspondence solicited.

FOR THE LATEST IMPROVED  
**GAS WORKS APPARATUS AND HOLDERS,**

ADDRESS

KERR-MURRAY MANUFACTURING CO., FORT WAYNE, IND.  
PLANS, ESTIMATES AND DRAWINGS FURNISHED.

**Hercules ICE Machine,  
CORLISS ENGINES,**

Hydraulic and Rolling Mill  
WORK.

HEAVY MACHINERY A SPECIALTY.

Write for Estimates and Catalogue.  
Mention this paper.

**HERCULES IRON WORKS, CHICAGO, ILL.**

**LITTLE GIANT PORTABLE FENCE LOOM**

Weaves the Fence on the Posts in  
Position.

Save Money by Building your own Fences  
Costs but 51 Cents per Rod to Build.

Capacity Sixty Rods Per Day!

MANUFACTURED BY

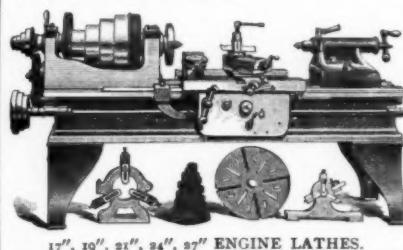
**RICHMOND CHECK ROWER CO., 1100 & 1102 North E St., Richmond, Ind.**

Shapers, Engine Lathes AND Drills.

**LODGE, DAVIS & CO.**

CINCINNATI, O.

WRITE FOR PRICES. IT WILL PAY YOU



20", 24" Upright Drills.

25", 28", 32", 40" B. G. B. F.

DRILLS.



UPRIGHT DRILL.

**WALMSLEY'S DEVICE**

For Raising and Supporting the Guide Board or Ring Frames and Twisters. In Fall River alone it is used on over 400,000 spindles, or 97 per cent. of all the ring frame spindles in the city. Outside of Fall River its use is scattered from Maine to Delaware, over 400,000 more. Anyone can put them on, being very simple, and its cost nominal.

For prices and information please address

**R. WALMSLEY, FALL RIVER, MASS.**

Patented Jan. 26, 1886.

ESTABLISHED 1852. INCORPORATED 1884.

The James Ohlen & Sons Saw Manufacturing Co.

COLUMBUS, OHIO. MANUFACTURERS

Solid and Inserted Tooth Circular Saws.

Mill, Muley, Gang, Drag, Cross-Cut & Band Saws.

Our Champion Chisel-Tooth Saws will stand steam or any other feed  
in all kinds of timber. No keys or rivets to strain blade, and are easily  
adjusted and absolutely secure. Any saw bearing our trade mark  
(James Ohlen & Sons) is warranted superior to all others. Price-list  
free on application. Mention this paper.



**A. WYCKOFF & SON, ELMIRA, N. Y.**

MANUFACTURERS OF **WOOD WATER PIPE**



a Wood.

b Hoop-iron bands.

c Asphaltum coating.

**"THE ONLY PERFECT"  
BUFFALO PORTABLE FORGES**

THE LIGHTEST, MOST DURABLE, FASTEST WORKING  
STRONGEST, AND IN EVERY WAY  
THE BEST PORTABLE FORGE MADE.

BUFFALO FORGE CO.  
BUFFALO, N.Y.